Eugene City Manager's Office

Memorandum

Date: April 16, 2013

To: Mayor and City Council

From: Jon Ruiz, City Manager

Subject: Community Climate and Energy Action Plan: 2013 Progress Report

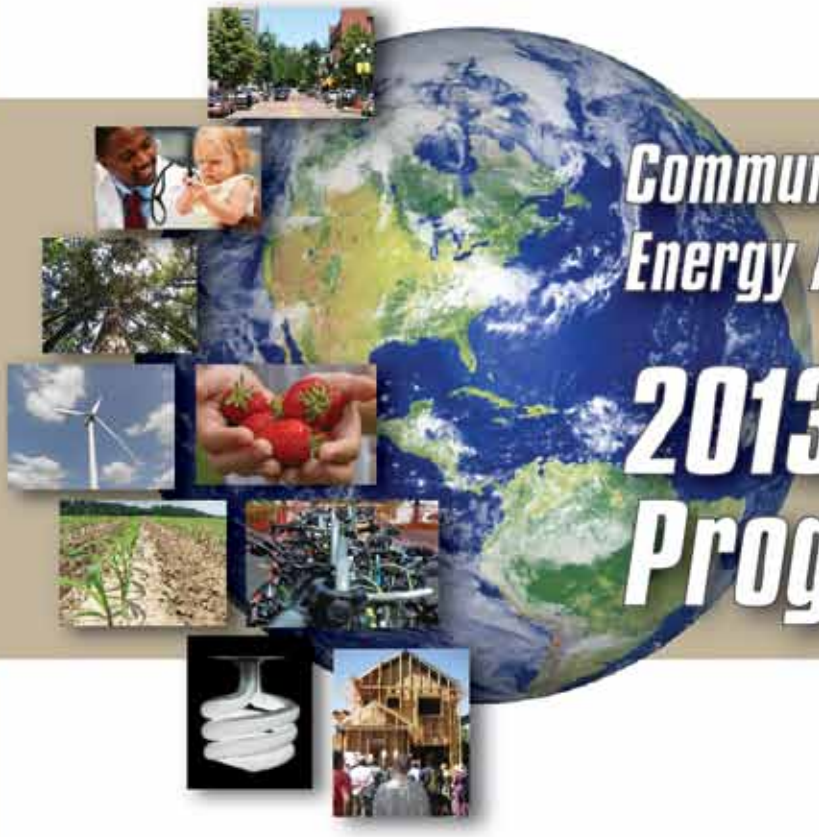
The City of Eugene and its many community partners continue to make progress toward our shared goals for climate action. The attached 2013 Progress Report provides both an overview of local trends as well as detailed status of the individual action items from the Community Climate and Energy Action Plan. I'm pleased to see that as a community, we continue to reduce our use of electricity, natural gas and transportation fuels – all important indicators of both a smaller carbon footprint and reduced dependence on fossil fuels.

Take a closer look at the report; you'll find that much of the work to address climate change aligns with other local priorities. The City is bringing climate action and community visioning together in the Envision Eugene process as we concentrate on building 20-minute neighborhoods and more compact, transportation-oriented development. New investments in pedestrian and bicycle infrastructure through our local road repair bond measures are critical to this evolution in community form and function.

The work to foster more sustainable business practices ties directly to the goals of the Regional Economic Prosperity Plan and helps to reduce the risk businesses face from rising energy and resource costs. We also have the opportunity to attract and grow local businesses that will participate directly in the emerging clean-green economy – a win-win for jobs and climate action.

While these actions help reduce our greenhouse gas impact, climate change is already in process and we need to take steps to prepare our community. We're taking an innovative approach to addressing community resilience, integrating climate, natural hazards and energy in both the development of a regional vulnerability assessment and land use policy for our comprehensive plan. These efforts provide important insights for how to strengthen critical systems that deliver drinking water, energy, transportation, housing and food.

We're moving in the right direction but there is much still to do. Local agencies across the region are facing budget constraints and reduced staffing resources. We need to come together to find new ways to collaborate and advance this work. I look forward to reporting to you next year that we've done just that and invite you to share your ideas for partnership as we seek these shared solutions.



Community Climate and Energy Action Plan

2013 Progress Report

April 2013

Eugene

Climate & Energy Eugene action plan

Acknowledgements

Thank you to the many City of Eugene staff, and the following organizations and individuals, who have contributed to this report:

BRING recycling

Dan Armstrong

Essential Consulting Oregon

Eugene Water and Electric Board

Friends of Trees Eugene

Lane Council of Governments

Lane County

Lane Transit District

Northwest Natural Gas

Oregon Department of Environmental Quality

Oregon Department of Land Conservation and Development

Oregon Department of Transportation

Point2point Solutions

School Garden Project of Lane County

The Resource Innovation Group

University of Oregon

Willamette Farm and Food Coalition

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Summary of Progress

In the 12 months between September 2011 and September 2012, several recommendations contained in the Community Climate and Energy Action Plan have been completed while others remain unchanged. Community-wide energy consumption continues to trend downward. Total electricity use has been flat over the last few years but is down 15% since 2000. Gasoline and diesel consumption has dropped 16% since 2005 including 2% over the last year. Natural gas consumption, down about 1% in 2012, has declined more than 12% since 2006. All of this while Eugene's population continues to increase, growing 8% between 2005 and 2011. These are hopeful trends that demonstrate we are succeeding in substantially reducing our reliance on fossil fuels.

Plan Background: Eugene's 2010 Community Climate and Energy Action Plan

In 2008, in response to increasing concern about global climate change and the potential for volatile and rising fuel prices, the Eugene Sustainability Commission obtained support from the Eugene City Council for creation of a climate and energy plan for Eugene.

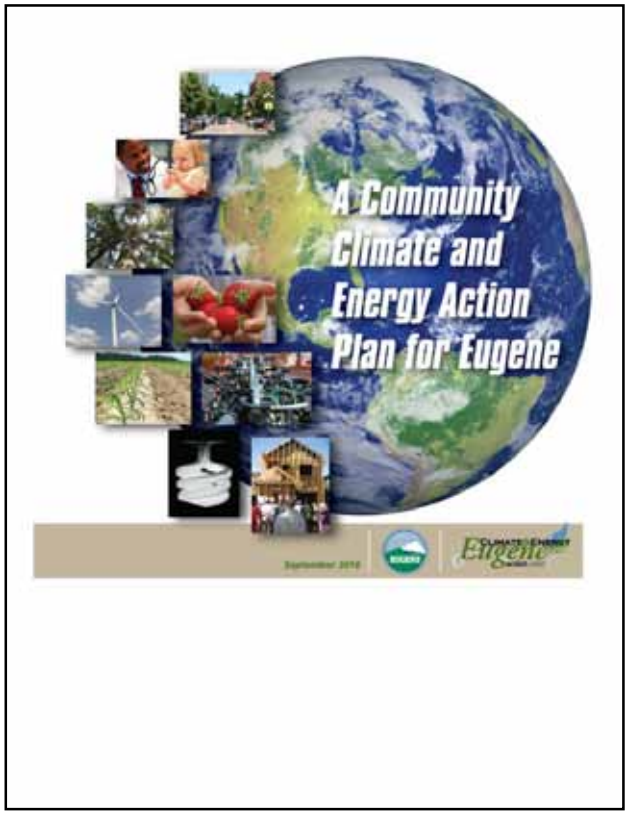
In September 2010, Eugene City Council reviewed the Plan and agreed with the City Manager's recommendation to implement actions that support the Community Climate and Energy Action Plan goals and objectives.

The Community Climate and Energy Action Plan contains three separate but overlapping goals:

1. Reduce community-wide greenhouse gas emissions 10 percent below 1990 levels by 2020.

2. Reduce community-wide fossil fuel use 50 percent by 2030.

3. Identify strategies that will help the community adapt to a changing climate and increasing fossil fuel prices.



The plan is organized into six Action Areas:

Buildings and Energy considers energy used in residential, commercial and industrial buildings in Eugene.

Food and Agriculture includes everything related to our food production, delivery, distribution and waste disposal.

Land Use and Transportation considers energy used for transporting people and goods as well as the impact that land use has on transportation systems and decisions.

Consumption and Waste looks at everything in the lifecycle of consumer goods from extraction of raw materials to manufacturing, packaging, distribution, product use and finally, disposal.

Health and Social Services addresses mental and physical impacts on residents brought about by climate change and rising fuel prices.

Urban Natural Resources considers the soil, air, water, plants and animals of our city.

Readers can link to the complete 2010 Community Climate and Energy Action Plan online at www.eugene-or.gov/sustainability

Purpose of Progress Report

This 2013 progress report is intended to update elected officials, community partners, residents of Eugene and City of Eugene staff on the progress made toward Eugene's Climate and Energy Action goals from September 2011 to September 2012.

The measurements section of this report contains an overall assessment of community energy use based on a targeted set of indicators that will be updated annually. A more comprehensive community greenhouse gas inventory will be conducted every three to five years along with a refinement of plan goals, strategies and language.

In addition to highlights and broad indicators of energy use, this report contains a brief description of progress for each action within the plan. Additional information can be found by contacting the resources described in this report or by contacting Matt McRae, City of Eugene Climate and Energy Analyst, at 541-682-5649 or matt.a.mcrae@ci.eugene.or.us.

2012 Highlights

Solarize Eugene

With funding from EWEB's innovative Greenpower Program (www.eweb.org/greenpower), The Resource Innovation Group (www.theresourceinnovationgroup.org), spearheaded an initiative to increase the number of solar energy installations in Eugene. Of the 262 EWEB customers who completed the paperwork to participate in Solarize Eugene, at least sixty households installed a total of up to 180 kW in solar electric systems. That amounts to almost a third of the total number of solar systems installed in the last decade.

Stormwater Retrofit Pilot Project

In 2012 The City of Eugene began partnering with Long Tom Watershed Council on a pilot project to help fund voluntary stormwater retrofits of existing developed private properties within the Amazon Creek watershed. Over a three year period a total of $50,000 of stormwater funds will be used to help an estimated 10 property owners retrofit their properties to incorporate green infrastructure stormwater features (raingardens or bioswales, for example) where conventional stormwater systems currently exist.

Eugene Pedestrian and Bicycle Master Plan

The Pedestrian and Bicycle Master Plan was accepted by Council in March 2012 as a working document for bicycle and pedestrian planning and improvements. The plan will be adopted as part of the Transportation Systems Plan in 2013. The plan lists a variety of pedestrian and bicycle improvements throughout the city. The city's Bicycle and Pedestrian Advisory Committee has begun developing a strategic 3-5 year action plan to further prioritize short-term projects. Implementation of the plan is underway with six bicycle facility projects completed in the summer of 2012 using city bond funding.

Climate Adapted Trees

In the winter of 2012/2013, The City of Eugene, in partnership with 4J, will plant a number of "climate adapted" tree species at Sheldon Community Center to test their viability as appropriate tree species for other locations in town. The trees are unique because they have been selected for their suitability today and their ability to thrive under future climate conditions of increased summer drought, warmer winters and increased winter rainfall.

The City of Eugene, in partnership with Friends of Trees, is making a number of these tree species available for residents to plant in the right of way. Residents interested in planting a new tree at their home can visit www.friendsoftrees.org

Context: Changes Over The Past Year

National, regional, state and local conditions heavily influence action on climate change in Eugene. Economic conditions, political trends, consumer prices, regulations and many other factors play an important role in what we achieve locally. Some of the more influential circumstances that provide context for this Progress Report are described below.

Extreme events and trends

It is true that no single event can be attributed to climate change but climate change increases the odds of extreme weather events and new climatic records. The trends are far more important to look at than any individual event.

Hottest year on record

2012 was the hottest year on record in the United States.

Highest global greenhouse gas emissions

2011 global greenhouse gas emissions were up more than 3% over the previous year setting a new record high for annual emissions.

Record low sea ice

2012 also saw the lowest area of arctic sea ice since satellite records began over 30 years ago.

Figure 1. 2012 was officially the hottest year on record in the United States since national records began in 1895.

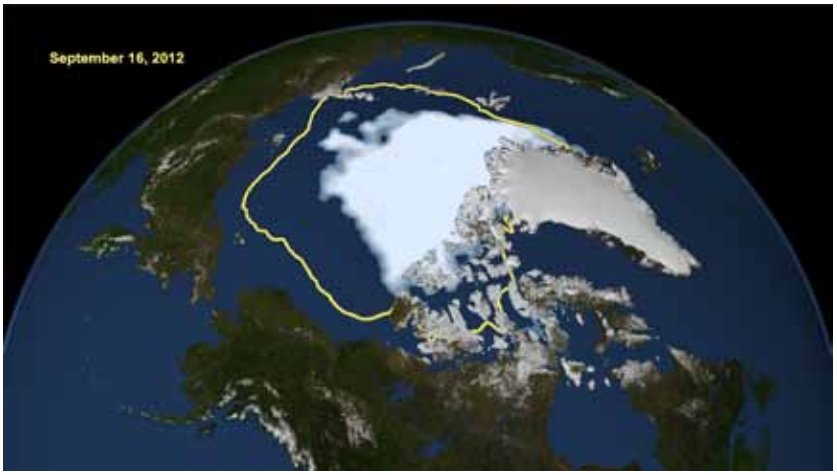


Figure 2: Image of the Arctic sea ice on September 16, 2012, the day that the National Snow and Ice Data Center identified to be the minimum reached in 2012. The yellow outline shows the average sea ice minimum from 1979 through 2010.

High cost of extreme events

The cost of severe weather events is similarly trending upward.

In 2012 there were eleven weather disasters that cost a billion dollars or more, including the following (source NOAA):

- March 2–3: Southeast/Ohio Valley Tornadoes
- April 2–3: Texas Tornadoes
- April 13–14: Great Plains Tornadoes
- April 28–May 1: Midwest/Ohio Valley Severe Weather
- May 25–30: Southern Plains/Midwest/Northeast Severe Weather
- June 6–12: Rockies/Southwest Severe Weather
- June 29–July 2: Plains/East/Northeast Severe Weather "Derecho"
- August 26–31: Hurricane Isaac
- Summer–Fall: Western Wildfires
- October 29–31: Hurricane Sandy
- throughout 2012: U.S. Drought/Heatwave

Mayors' call for national climate summit

With the unprecedented series of events trending this way, Mayors from across the country, including Eugene Mayor Kitty Piercy, are calling on President Obama to hold a national climate summit in 2013. More information at www.climatesummit2013.org

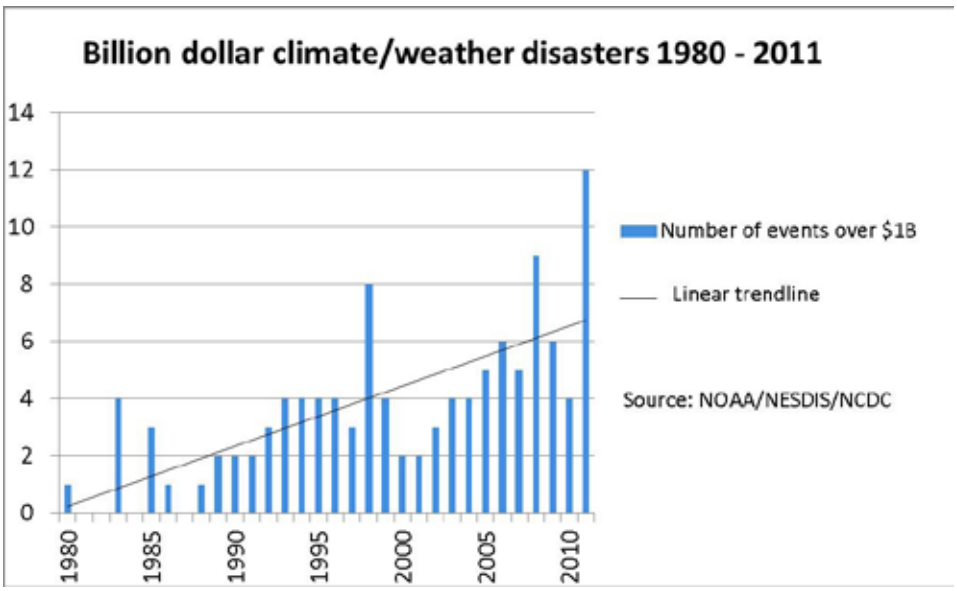


Figure 3: Billion Dollar Climate/ Weather Disasters 1980-2011.

Source: NOAA

National and global research

US National Climate Assessment Report

In January 2013 the United States National Climate Assessment and Development Advisory Committee released the Federal Advisory Committee Draft Climate Assessment Report for public review. While the document will likely change before publication, the language indicates greater certainty regarding the negative impacts of climate change on future of the Pacific Northwest. The chapter on the Northwest region provides these key messages:

1. Changes in the timing of stream flow related to changing snowmelt are already observed and will continue, reducing the supply of water for many competing demands and causing far-reaching ecological and socioeconomic consequences.

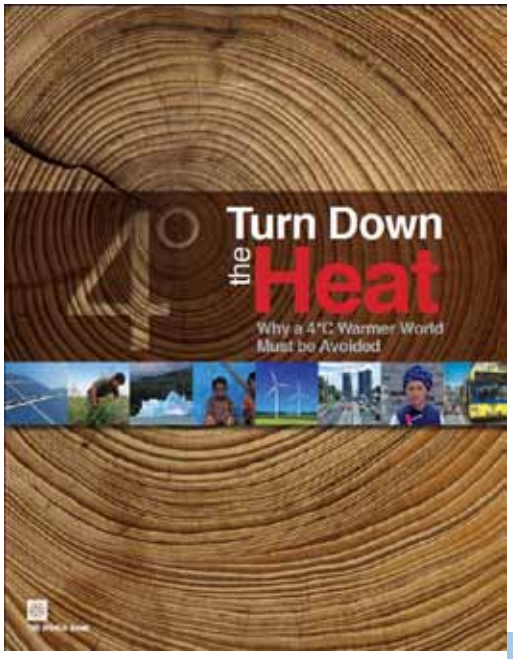
2. In the coastal zone, the effects of erosion, inundation, threats to infrastructure and habitat, and increasing ocean acidity collectively pose a major threat to the region.

3. The combined impact of increasing wildfire, insect outbreaks and diseases is virtually certain to cause additional forest mortality by the 2040s and long-term transformation of forest landscapes. Almost complete loss of subalpine forests is expected by the 2080s.

4. While the agriculture sector's technical ability to adapt to changing conditions can offset some of the adverse impacts of a changing climate, there remain critical sector-specific concerns with respect to costs of adaptation, development of more climate resilient technologies and management, and availability and timing of water.

The report also indicates a greater level of concern about the ability of complex and interrelated municipal systems to handle the impacts associated with climate change.

U.S. Global Change Research Program
National Climate Assessment



The draft language in the chapter on Urban Systems, Infrastructure and Vulnerability provides these key messages:

1. Climate change and its impacts threaten the well-being of urban residents in all regions of the U.S. Essential local and regional infrastructure systems such as water, energy supply and transportation will increasingly be compromised by interrelated climate change impacts.

2. In urban settings, climate-related disruptions of services in one infrastructure system will almost always result in disruptions in one or more other infrastructure systems.

3. Climate vulnerability and adaptive capacity of urban residents and communities are influenced by pronounced social inequalities that reflect age, ethnicity, gender, income, health and (dis)ability differences.

The full draft report can be found online here: www.ncadac.globalchange.gov

The World Bank

In November 2012 The World Bank released a report: Turn Down The Heat; Why a 4°C Warmer World Must Be Avoided. The report highlights the current level of scientific agreement among climate scientists and goes on to describe the concerning affects a 4°C (7°F) warmer world would bring. The authors determine that "The 4°C scenarios are devastating: the inundation of coastal cities; increasing risks for food production potentially leading to higher malnutrition rates;… unprecedented heat waves in many regions, especially in the tropics; substantially exacerbated water scarcity in many regions; increased frequency of high-intensity tropical cyclones; and irreversible loss of biodiversity, including coral reef systems. And most importantly, a 4°C world is so different from the current one that it comes with high uncertainty and new risks that threaten our ability to anticipate and plan for future adaptation needs." The authors conclude, "A 4°C world will pose unprecedented challenges to humanity. It is clear that large regional as well as global scale damages and risks are very likely to occur well before this level of warming is reached."

International Energy Agency

In May 2012, the International Energy Agency reported that in order to retain a 50% chance of limiting the increase in the average global temperature to 3.6°F above the preindustrial average, CO2 emissions would need to peak by 2017 and rise no more than 3% above 2011 emission levels. "The new data provide further evidence that the door to a 2°C (3.6°F) trajectory is about to close," said IEA Chief Economist Fatih Birol.

Federal climate policy

In the past year, no federal legislation has been passed that limits, or places a price on greenhouse gas emissions, such as a carbon tax, or cap and trade program.

State climate policy

In the past year, no statewide legislation has been passed in Oregon that either limits greenhouse gas emissions, such as a carbon tax or cap and trade program, or raises the cost of fossil fuel, such as an increased gasoline tax. California launched a statewide carbon cap and trade program that formally began in January 2013.

Local attitudes

Over the past year, the City of Eugene Sustainability Office has engaged in research to better understand community attitudes about climate change and sustainable consumption. The results of this research will help support the development of a public outreach effort to reduce greenhouse gas emissions.

Below are the major, top-level findings from the research that included surveys and focus groups. All of the research reports are available on the City of Eugene website, www.eugene-or.gov/sustainability.

Eugene area residents believe in climate change, and that humans are causing it.

In a quantitative phone survey, 77 percent of Eugene residents agreed that climate change is occurring because of human causes like burning fossil fuels. Another 71 percent agreed that the long-term impacts will likely be catastrophic.

Residents broadly support climate action and want to do more.

In the phone survey, 81 percent of respondents felt that climate change requires us to entirely rethink our behavior. Another 75 percent of respondents felt that climate change requires much stronger regulation of greenhouse gas emissions. At the individual level, 74 percent of those surveyed disagreed that individuals are incapable of solving climate change and that their own actions won't make a difference.

There are a variety of reasons to live in a more sustainable manner.

In the focus groups, residents cited ease, convenience, money savings, concern for the earth, self-satisfaction, supporting local businesses and concern for future generations as motivators for more sustainable behavior.

People understand that consumption can pose problems for individuals and society, and believe we should reduce consumption to improve our lives.

There was general agreement across the focus groups that the state of consumption in the United State is not healthy. Respondents cited an "instant gratification" mentality and "waste" as the main reasons that overconsumption was a negative force.

Eugene residents believe that consuming locally is a good thing.

Across the focus groups, participants indicated strong support for local businesses. Both the economy-focused and the environment-focused groups agreed with the statement "Consuming thoughtfully will mean I support the businesses I believe in, and not the ones I don't." In the phone survey, when asked to rank a list of 12 environmental actions, the top two actions people supported were driving energy-efficient cars and supporting local businesses that implement environmentally friendly practices.

While people understand the problems associated with consumption, they are less certain about its role in the larger economy.

In the internet survey, a significant majority agreed that consumption threatens our ecosystem (80 percent), leads to higher consumer debt (81 percent), and creates too much waste (74 percent).When considering the role of consumption in the economy, opinions are more diffused. Asked if consumption is necessary for the growth and strength of the economy, 39 percent disagreed, 32 percent were not sure and 30 percent agreed.

Community Greenhouse Gas Measurements

This section of the CEAP 2013 Progress Report is intended to review trends and measures of community-wide greenhouse gas emissions—most of them stemming from direct energy use. A more detailed accounting of greenhouse gas emissions, called a community greenhouse gas inventory, will be conducted every three to five years. The measures below, however, will help us monitor community energy consumption in the years between major inventories.

Electricity use in Eugene Water and Electric Board service area

Figure 4 shows total annual electricity use and average annual electricity use per customer in Megawatts. Electricity use fell 15% between 2000 and 2011. Recent reductions are due largely to reduced industrial electricity demand and milder winter temperatures. Note that while EWEB doesn't serve all electricity customers in Eugene, it serves the vast majority.

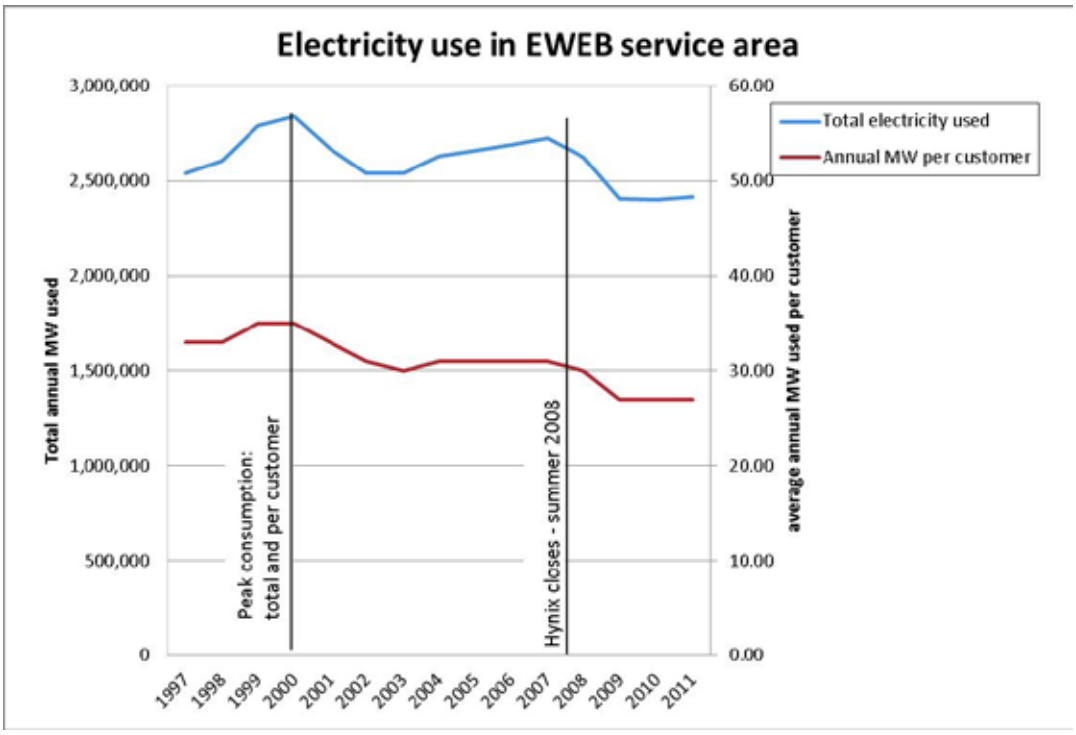


Figure 4: Electric use in EWEB service area

Source: EWEB annual financial report

Natural gas burned

Figure 5 shows total natural gas consumed in Eugene. Though consumption has varied little in the last three years, it has fallen more than 12% since 2006. Reduced demand is largely attributed to reduced industrial use as well as milder winter temperatures.

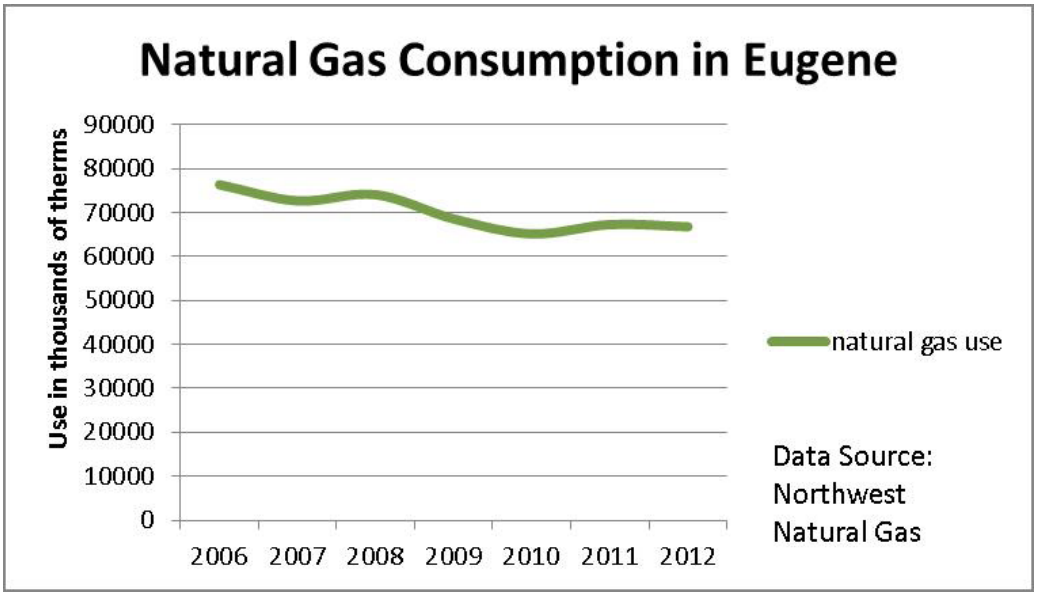


Figure 5: Natural Gas Consumption

Gallons of gas and diesel burned

Figure 6 illustrates annual gallons of gasoline and diesel fuel purchased in Eugene. For context, the average price per gallon of fuel is included. The dashed line illustrates the fossil fuel target set by Eugene City Council; a 50 percent reduction by the year 2030. Remarkably in Eugene gasoline and diesel consumption dropped just over 16% between 2004 and 2012. Over that same time, the population of Eugene grew by 10% meaning per capita fuel reductions were almost 25% in eight years!

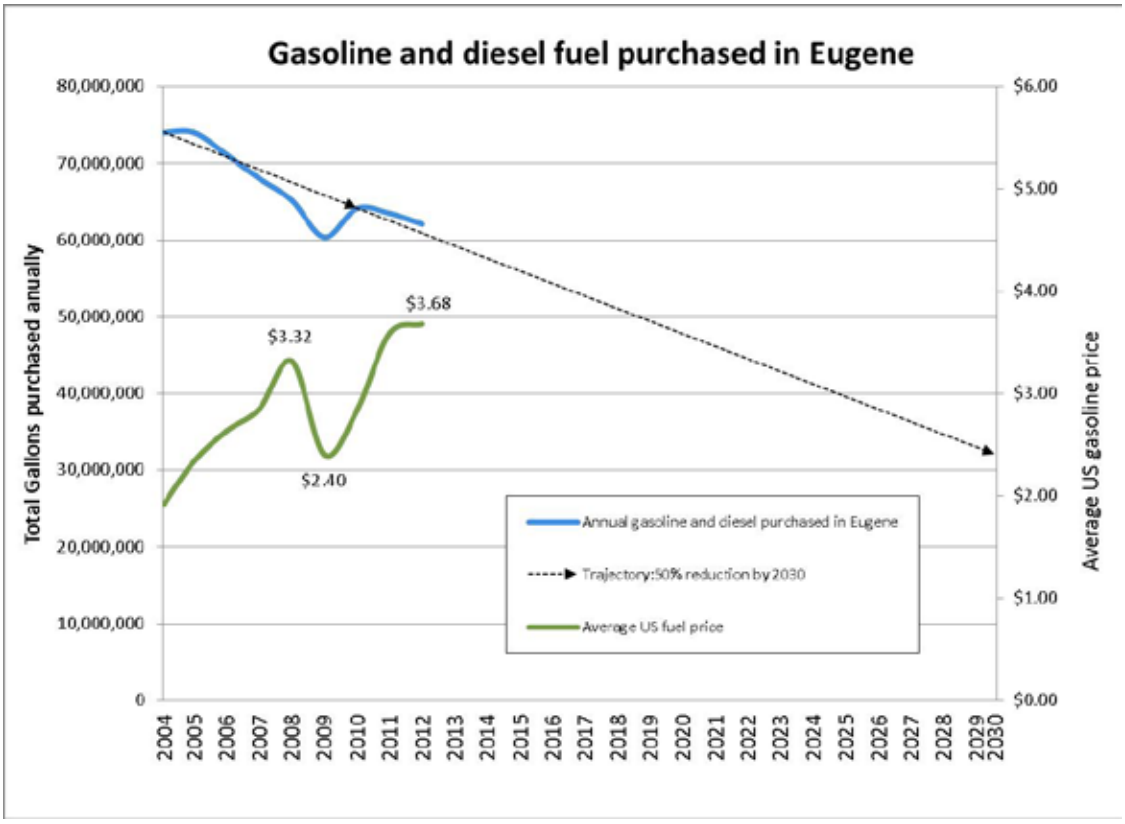


Figure 6: Gasoline and Diesel Fuel Consumption

Data source: State of Oregon Fuel Tax receipts. Average annual US fuel price data provided by the US Energy Information Administration.

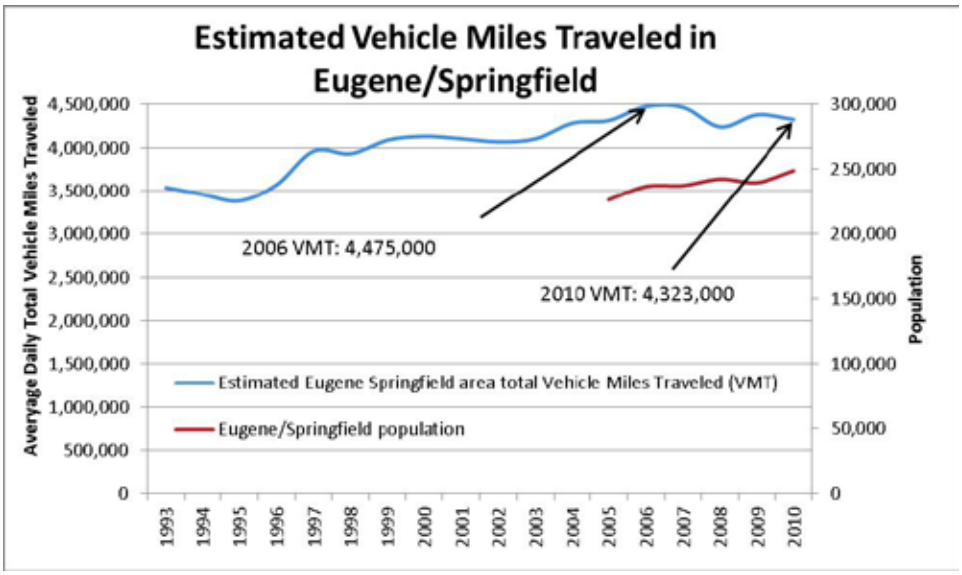


Figure 7: Estimated Vehicle Travel in Eugene/Springfield

Numbers are based on auto traffic measurements and estimations made by the Federal Highways Administration and Oregon Department of Transportation.

Population figures: US Census Bureau

Automobile Vehicle Miles Traveled (VMT)

Figure 7 charts an estimate of automobile traffic—specifically an average of how many automotive vehicle miles are traveled on Eugene/Springfield roads each day. These estimates suggest total VMT has dropped about 3% since the all-time high in 2006. The population has grown by about 5% over the same time frame suggesting per capita reductions around 10% over that five year period.

Percent of commute trips made by all modes of transportation

Figure 8 reflects how Eugene/Springfield residents report they get to and from work. The many other trips that are taken during the course of a year are not reflected in this chart.

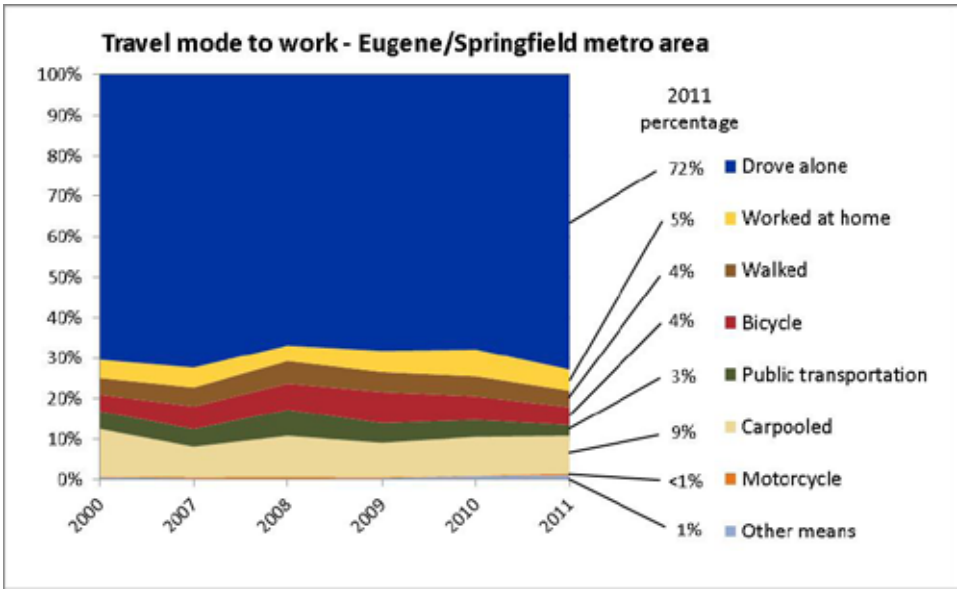


Figure 8: Method of travel to work

Data source: American Community Survey

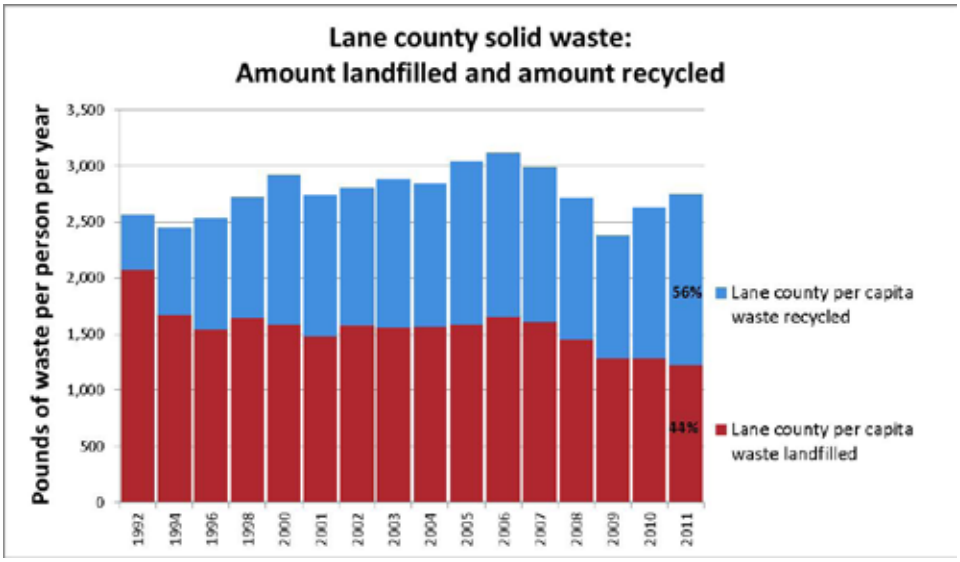


Figure 9: Solid Waste

Based on data from Lane County and provided by the Oregon Department of Environmental Quality.

Eugene residents made up approximately 44% of Lane County's population in 2011.

Pounds of waste sent to landfill and recycled in Lane County

Figure 9 illustrates the amount of waste generated in Lane County and the "diversion rate," that is, the amount that is diverted from the landfill primarily through recycling. The per capita amount of waste sent to the landfill in Lane County decreased 26% between 2006 and 2011. The per capita waste recycled in Lane County has increased 4% since 2006. Note the total amount of waste being generated (recycled + landfilled) has rebounded and has climbed more than 14% from the low in 2009.

These measures of waste generated are included in this summary because embodied energy, that energy used to extract the materials and manufacture a good, is a significant source of community greenhouse gas emissions. The amount of waste generated can provide a rough measure of the amount of goods being purchased over time, providing us with a loose tool to track greenhouse gas emissions from embodied energy. For further explanation of the sources of greenhouse gas emissions, see Eugene's 2010 Community Climate and Energy Action Plan.

Water use in EWEB service area

Figure 10 charts residential, commercial and industrial water uses. The measure of water use is included not only because water requires electricity to treat and pump, but because water supply is a significant concern when it comes to adapting to climate change. This measure can help us think about how Eugene is preparing for a future climate that is different from the one we are experiencing today. According to EWEB's annual financial report "During 2011, the Water System sold 7.5 billion gallons of water… approximately 260 million gallons (3%) less than the volume sold in 2010, a decrease due primarily to unusually mild conditions that predominated through much of the summer of 2011."

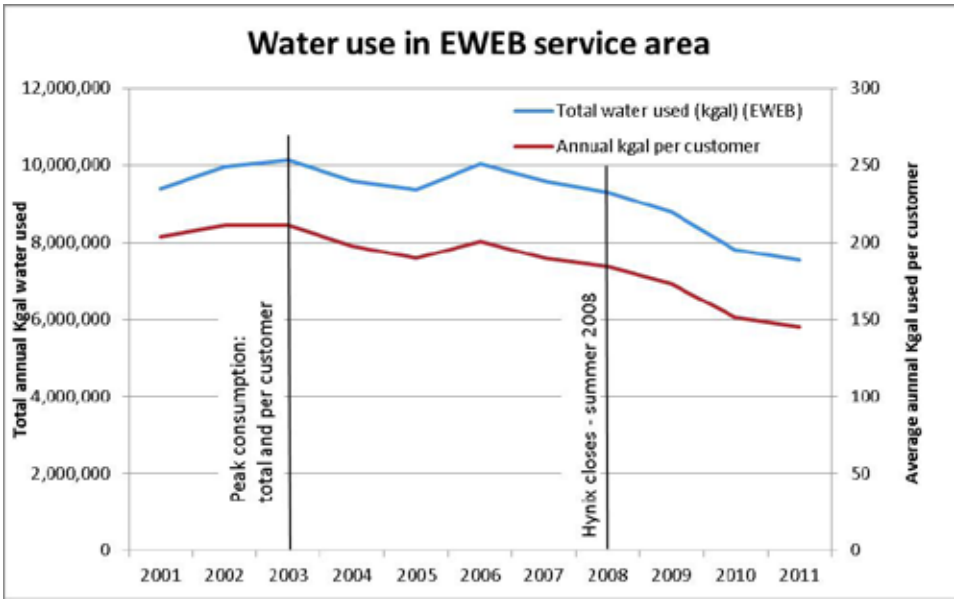


Figure 10: Water use in EWEB service area. Data source: EWEB 2011 Financial Report.

General Trend

Overall, the general trend of energy and water consumption in Eugene is moving steadily downward. It is worth noting that these trends began several years before the economic downturn that occurred in the last half of 2008.

It is important to note that this analysis is based on the collection of measurements above, not a comprehensive community greenhouse gas inventory. While the recent trends are moving downward, many things influence greenhouse gas emissions and no causal relationship to any one action can be explicitly stated. The Climate and Energy Action Plan has been in use for only two years but as more time elapses, longer-term trends should provide one indicator of its effectiveness.

Progress: Action by Action Update

This section contains an update on each of the recommendations contained within the 2010 Community Climate and Energy Action Plan. Updates were informed by input from a variety of organizations and agencies and reflect progress on individual actions between August 2011 and September 2012. When items read "No progress to report" or "no change", this indicates the status of this action has not changed substantially over the year. When items read "No update available" this means an update was not available by the September deadline and does not necessarily indicate that no progress has been made on that action. Wherever possible, contact information is available to help readers follow up.

Strategy Scorecard

A snapshot of strategies finished, striding, getting started and no movement.

	Strategies finished	Strategies in stride	Strategies getting started	Strategies with no movement
2011 totals	4 =3	3 =23	2 =53	1 =25
2012 totals	4 =11	3 =36	2 =28	1 =13

Progress: Action Update

This section contains an update on each of the recommendations contained within the 2010 Climate and Energy Action Plan. The updates were informed by input from a variety of organizations and agencies. The status 2011 provides the best available information at the time of printing. Where possible, a status report for 2010 is also provided to give the reader a point of comparison.

KEY

= finished

= striding

= getting started

= no movement

= no information

BUILDINGS AND ENERGY

1.1. Identify the most cost-effective opportunities for increasing efficiency in existing buildings.

Status 2011	In 2011, the findings from EWEB's Conservation Potential Assessment are being applied in the creation of EWEB's Integrated Electricity Resource Plan that will determine the amount of investment EWEB makes in conservation over the next several years. In January 2011, Energy Trust of Oregon released its Energy Efficiency and Conservation Measure Resource Assessment for 2010 – 2030. This document describes priorities for energy savings including natural gas use.
Status 2012	Complete

1.2. Expand assistance and incentive programs for building retrofits that increase energy efficiency and reduce the carbon footprint of existing buildings.

Status 2011	City of Eugene staff are exploring ways to connect property owners to resources that help reduce energy consumption in rental housing. EWEB spends approximately $5.5-$6.0 million on energy efficiency retrofits annually. Since 2010 BRING's RE:think program has worked with businesses to invest in lighting and refrigeration upgrades that have resulted in an estimated savings of 120,000 KWH per year, equivalent to a reduction of 95,200 lbs. of C02 emissions based on the Northwest Power Pool emissions factors. Between January 2011 and August 2011 this program reached 33 businesses in Eugene. A City of Eugene staff group, focused on the Buildings and Energy section of the Climate and Energy Action Plan priority actions, is investigating ways to increase financial assistance for low-income populations and renters in order to support energy efficiency retrofits that will reduce utility costs. The City, EWEB and the Housing Authority of Lane County (HACSA) collaborated on an Affordable Housing Energy Improvements Project to extend the life of existing affordable housing developments, reduce energy consumption, decrease utility costs for low-income tenants, and improve living conditions for vulnerable community residents. The partners contributed funds, solicited and reviewed proposals, and ultimately awarded $594,000 in grants and incentives for 160 units at 6 affordable housing developments, resulting in an estimated annual savings of 237,000 Kilowatt hours and 172,000 lbs of CO2. The Oregon State Legislature reduced program funding for the Business Energy Tax Credit (BETC) program that provided tax breaks and grant funded incentives for energy efficiency and renewable energy projects. BETC funding remains for energy efficiency projects but is reduced significantly for installation of renewable energy systems. The Residential Energy Tax Credit (RETC) program is still intact and continues to offer tax credits for residential energy efficiency and renewable energy projects.

1.2. Continued

Status 2012	EWEB: In FY12, EWEB conservation program costs were about $5M, not including new construction or solar incentive programs. Energy efficiency savings from these projects totaled about 15 million kWh, or the equivalent of over the annual energy used in over 1200 homes. A new commercial LED lighting retrofit program was introduced in 2011 and expanded in 2012. Due to budget constraints, EWEB is modifying its conservation program offerings which will likely result in lower participation rates next year. However, the utility still plans to offset any additional load growth through conservation. BRING RE:think program: Between August 2011 and August 2012, BRING's RE:think program reached 31 new businesses, followed up with nine businesses and certified seven as Re:think certified. The program helped two businesses to complete lighting upgrades resulting in a savings of approximately 20,000 KWH annually, (approximately 16,000 lbs. of C02 annually).

1.2a) Work with Energy Trust of Oregon to focus on improving efficiency in buildings that are heated with natural gas.

Status 2011	In fall of 2011, a City of Eugene staff group will begin crafting a strategy to address natural gas efficiency in buildings. This will include collaboration with Energy Trust of Oregon and Northwest Natural Gas. This group will assess the cultural, financial, and political barriers that are preventing more gains in natural gas efficiency. The collaboration will work to remove those barriers.
Status 2012	Clean Energy Works Oregon: The City has been working with Clean Energy Works Oregon (CEWO) to determine how best to support implementation of a new energy efficiency retrofit program for single family residential properties in Lane County. After an initial "soft launch" in summer 2012, CEWO plans to conduct an official launch including an advertising and public relations campaign in fall 2012.

1.2b) Target sectors with high-efficiency potential including rental buildings, multifamily housing, remodels, and commercial tenant infill.

Status 2011	Working with local partners to maximize grant funding from the Energy Efficiency and Conservation Block Grant (EECBG), the City of Eugene created the Affordable Housing Energy Improvements Program in 2010. The program brings together the City of Eugene, Housing And Community Services Agency of Lane County (HACSA), and the Eugene Water and Electric Board (EWEB) to help existing affordable housing projects become more energy efficient. Together, the agencies were able to pool their resources for a total of $594,000 to fund six affordable housing energy improvement projects that were selected through an application process. The partnership will result in energy improvements for 160 affordable housing units and reduce annual energy use by 236,854 Kilowatt hours – enough energy to power the average house for 16 years, and equating to 171,768 lbs. of reduced CO2 emissions.
Status 2012	All six affordable housing retrofit projects mentioned above are now completed. Initial results indicate that energy savings will be greater than originally anticipated. City staff continues to explore strategies for reducing energy consumption in rental housing. EWEB recently launched a rental housing pilot program to a) identify rental and low income housing properties that have not yet benefitted from EWEB's energy efficiency programs and b) conduct targeted focus groups to understand landlord and tenant motivations. Based on findings from these focus groups, EWEB plans to design and implement a pilot program to weatherize these properties.

1.3. Establish a project fund to complement existing loan and incentive programs by focusing on long-term, low-interest financing mechanisms for residential and commercial energy efficiency and/or renewable energy system installations.

Status 2011	In 2011, regional partners including Lane County, EWEB, and the City of Eugene began discussions with Clean Energy Works Oregon (CEWO) to establish a residential energy retrofit program fund in cooperation with local lending institutions. Due to changes in staffing at Lane County and a lack of information on the need for the types of products CEWO offers, this project is on hold. Changes in statewide tax incentives for energy efficiency (BETC) were adopted by the Legislature, with the resulting program impacts currently being evaluated. In 2011, the Oregon State Legislature reduced program funding for the Business Energy Tax Credit (BETC) program that provided tax breaks and grant funded incentives for energy efficiency and renewable energy projects. BETC funding will continue for energy efficiency projects but is reduced significantly for renewable energy systems.
Status 2012	The Clean Energy Works Oregon program described in 1.2a will provide this type of financial tool in Eugene for residential properties in the near term.

1.4. Target occupant behavior in order to reduce energy use in all types of buildings.

Status 2011	The Climate Masters at Home program, now operated by City of Eugene Recreation Department and sponsored by Lane County Waste Prevention, encourages homeowner awareness of energy use and informs students about the importance of actions like controlling thermostats and operating windows in reducing building energy use. EWEB is beginning a major project to roll out Advanced Metering Infrastructure, commonly referred to as smart meters. EWEB is researching equipment and preparing a smart meter pilot in Eugene. Implementation is likely to begin in 2013. This project will enable better communication with customers and, with the aid of price signals, will encourage electricity conservation by providing customers with better information to make informed choices. From January 2011- August 2011 BRING's RE:think program helped 33 business owners reduce energy use, water use, and waste generation, in part through occupant behavior such as manually adjusting thermostats.
Status 2012	BRING recycling continues to operate their RE:Think program and from August 2011 to August 2012 the program reached 31 new businesses, followed up with 9 businesses and 7 were RE:Think certified. EWEB: In 2012 EWEB continued planning for a future Advanced Metering Infrastructure (AMI) system that would allow two-way communication with customers, different billing options and development of other customer programs that target energy consumption patterns. This AMI system requires EWEB to make information technology upgrades in advance of meter deployment, pushing implementation back to 2015. EWEB is already piloting demand management programs with customers, including a hot water heater project involving 51 residential customers and an automated peak load/wind integration pilot with a major industrial customer. Additional demand management pilots are planned for 2013. EWEB continues to offer individualized energy education to about 1000 low income customers each year to help people better manage their usage to lower utility bills.

1.5. Adopt an energy performance score program or similar tool to disclose total energy use in existing and new buildings for use by builders, realtors, owners, and renters.

Status 2011	EWEB now offers an Energy Performance Score (EPS) for new residential construction. EWEB is working on piloting the Energy Trust of Oregon's model for existing buildings when it is available. New legislation would be required to make use of this tool mandatory - otherwise it would remain voluntary. Based on feedback from a builder survey, EWEB is also looking at using EPS scores as the basis for efficiency incentives. The City of Eugene Waste Prevention and Green Building program is assessing the possibility of including an Energy Performance Score in its Green Building Incentive program. The City of Eugene and EWEB are also planning an EPS Summit for this fall or winter to educate the building community about the value of EPS and discuss how to further its use locally.
Status 2012	Energy Trust of Oregon recently announced an expansion of their Energy Performance Score (EPS) tool to include existing single family homes in Oregon. Homeowners in Energy Trust territory, which includes Northwest Natural customers in Eugene, are now eligible to receive an EPS score for their home's current energy use and the impact of the energy efficiency improvements they are implementing.

2.1. Lobby for adoption and actively participate in development of building code amendments that meet the Architecture 2030 standards for energy efficiency.

Status 2011	The City of Eugene and EWEB provided input during the 2011 legislative session on improvements to the state building code and the newly adopted Reach Code for energy efficiency. According to state reporting, "The primary goal of the [Reach] code is to provide an optional set of statewide construction standards for energy efficiency that exceed the requirements of the state's mandatory codes. The Reach Code will act like a statewide alternate method: builders will have an optional "green" path and jurisdictions can be assured the state-of-the-art construction methods are sound." More information is available at: www.bcd.oregon.gov/committees/11reachcode.html
Status 2012	No state building code adoption processes have occurred since the last status update. The state Building Codes Division is beginning the adoption process for the 2012 International building codes with an anticipated effective date of April 2014. This will be the City's next opportunity to participate in energy code development.

2.2. Increase incentives for highly energy-efficient new buildings aiming toward zero net energy and carbon neutral buildings.

Status 2011	The City of Eugene Green Building Incentive Program has used grant funding to provide building permit rebates for high performance buildings, so far totaling $8,000. The City and EWEB are also working together to support Eugene's first affordable housing project that will test an innovative Passive House approach (www.passivehouse.us), which has been shown to decrease energy use for heating up to 90%. In developing the 54-unit Stellar apartments, St. Vincent de Paul Society of Lane County plans to construct one of the apartment buildings to Passive House standards and the rest to Earth Advantage standards (www.earthadvantage.org), providing an opportunity to compare the performance, costs, and benefits of these standards. The City and EWEB are providing funding and technical support for this project to model an approach that could be replicated on other affordable housing projects. The City is also funding a University of Oregon life cycle assessment on the energy and climate benefits of these two approaches. Passive House standards, designed for buildings that aim to use little or no energy for space heating or cooling, are being incorporated into the City of Eugene Green Building program. The University of Oregon will begin new campus-wide building standards. In August 2011, according to a University of Oregon Press Release, "The University of Oregon adopted sustainability standards that will cap energy use from new development, resulting in a net-zero increase in energy use despite continued construction on its 295-acre campus. New projects will be required to meet LEED Gold certification and must produce 35 percent greater energy savings than the state's building code requires."

2.2. Continued

Status 2012	Green Building Incentive Program: The City's Green Building Incentive Program promotes highly energy-efficient new buildings. New construction and major renovation projects that pursue a third party green building certification (LEED, Earth Advantage, Passive House or Living Building Challenge) are eligible for priority plan review and inspections, permitting and technical assistance and recognition and publicity benefits. Construction projects that meet higher standards for energy efficiency and waste reduction have also been awarded partial rebates in permit fees, as part of funding secured through the federal stimulus package. Of the 76 projects that have participated in the City's Green Building Incentive Program, twenty met the higher standards and therefore qualified for partial permit fee rebates, for a total of $64,000 in rebates awarded. Willakenzie Crossing, an affordable housing project, received $15,000 in rebates through this program. Stellar Apartments: EWEB is providing energy efficiency incentives and Earth Advantage certification at no cost, as well as $20,000 for energy monitoring equipment and Passive House consulting services. City staff is working with the Stellar Apartments project team to determine how to share and apply lessons learned from this project.

2.2a) Revise or expand incentives to encourage smaller homes that require less energy to operate and fewer building materials to construct.

Status 2011	Oregon Department of Environmental Quality research completed in 2010 concluded that smaller homes have a smaller carbon footprint - supporting the idea that incentivizing smaller homes is a useful method to reduce community greenhouse gas emissions. The report, A Life Cycle Approach to Prioritizing Methods of Preventing Waste from the Residential Construction Sector in the State of Oregon, is available on DEQ's website at www.deq.state.or.us/lq/sw/wasteprevention/greenbuilding.htm. Eugene's Green Building Incentives Program continues to provide incentives for construction of smaller homes.
Status 2012	City staff has been participating in a workgroup in support of space-efficient housing, led by Oregon Department of Environmental Quality (DEQ). The group has organized a one-day housing summit: Build Small, Live Large in October, 2012. In preparation for this summit, DEQ commissioned a demographic study to determine how long-term demographic trends may be influencing the market for smaller homes. Eugene demographic data will be included in this study.

3.1. Increase the use of on-site renewable energy systems, such as solar hot water, photovoltaic, and ground-source heat pumps, by removing financial, infrastructural, regulatory, and perceptual barriers.

Status 2011	A recent decrease in the Oregon residential tax credit (RETC) for renewable energy sources has dampened activity levels. EWEB has been marketing solar water heating, however, the response has been limited. EWEB and the City of Eugene are partnering on a community survey that will gauge attitudes about solar energy use, determine ratepayer willingness to support subsidies for solar electricity generation, and reveal barriers to adoption of solar technologies.

3.1. Continued

Status 2012	In September, 2011 EWEB hired a consultant to survey customers in order to help EWEB and the City of Eugene better understand a) customer general knowledge and perceptions regarding solar technology, and b) customer willingness to subsidize solar technology. The survey confirmed the main barrier to installing solar electric systems was cost. The survey indicated there is not strong public support for EWEB to further incentivize solar technologies for customers, including for public buildings, and survey respondents were particularly concerned if subsidies impacted rates. State tax credits and EWEB incentives for photovoltaic (PV) have declined due to economic conditions, yet participation rates in net-metering programs continue an upward trend. This is due in part to declining equipment costs, as well as the Solarize Eugene project. Solarize Eugene: Through active marketing, education and reduced costs through volume purchases of equipment, Solarize Eugene was designed to tap pent-up demand for solar by offering customers a simplified process to move forward with installations. The program was implemented by The Resource Innovations Group in 2012 and funded by an EWEB Greenpower grant. Of the 262 EWEB customers who completed the paperwork to participate in Solarize Eugene, at least sixty households are installing a total of up to 180 kW in solar electric systems. That amounts to almost a third of the total number of solar systems installed in the last decade. The City promoted the program, implemented a Residential Solar Express Permit Program to speed the permitting process, and provided a $100 permit fee discount for the first 25 program participants. More details about the program at: www.theresourceinnovationgroup.org/solarize-eugene-home

3.1a) Invest in EWEB's downtown network to allow surplus energy from photovoltaics on downtown buildings to be integrated into the electricity grid.

Status 2011	EWEB is currently in the planning and design phase to upgrade the downtown network for this purpose. Infrastructure assessment is underway with major work starting in 2012 and completion planned for 2014 – 2015.
Status 2012	EWEB continues the process of planning, designing and implementing the upgrade of the downtown network. Overall planning will continue in 2012 and 2013. In 2013, upgrades to the Jefferson and Willamette substations will begin, new vaults will be installed at transformer locations, and survey analysis and mapping of the existing conduit system will take place. Overall completion is still expected in 2014-2015.

3.1b) Address the financial barriers to onsite renewable energy by expanding financing options like long-term loans and property-assessed clean energy bonds.

Status 2011	A few private solar firms including Solar City are offering lease options for photovoltaic panels in Eugene. Other financing options are available through local banks. Low electricity costs in the EWEB service area may reduce the financial motivation to install photovoltaic solar panels.
Status 2012	No change.

3.1c) Assess and reduce barriers to solar energy use and balance priorities for solar access.

Status 2011	There has been no specific action to address solar access priorities; however, the issue will likely be addressed in the City's next comprehensive plan, Envision Eugene.
Status 2012	The Eugene City Council has approved a work plan for Envision Eugene which is primarily focused on those tasks required by the state for adoption of Eugene's new Comprehensive Plan and Urban Growth Boundary. While solar access issues are not currently a part of this work plan, planning staff and city council will have an opportunity to prioritize future work program items, which could include solar access.

3.3. Develop at least one community scale renewable energy pilot project by 2015.

Status 2011	A University of Oregon project developed a community solar decision support tool – funded through Meyer fund for sustainable environment – done through UO – currently in testing form and available at: http://communitysolar.dyndns.org/index.php
Status 2012	In fall, 2012, The Resource Innovation Group (www.theresourceinnovationgroup.org) and LEAN Energy US began investigating the potential for a community-shared renewable energy project to serve Eugene Water & Electric Board customers. The organizations will convene partners including EWEB, the City of Eugene, legal and accounting experts, and the Bonneville Environmental Foundation. The initial phase of the project is expected to be a solar photovoltaic system up to 200kW nameplate capacity, with the possibility for expansion in the future.

3.4. Develop district energy systems in Eugene.

3.4a) Remove legal, technical, policy, governance, and financial barriers to district energy systems.

Status 2011	During 2011, the City of Eugene conducted research to identify the legal, technical, and policy obstacles and uncover opportunities for establishing a district energy system in Eugene. In August, findings were presented to local agencies and interested parties. A final white paper and District Energy website is in process with an expected completion date of December 1, 2011.
Status 2012	Hannah Bryant, the primary researcher for the 2011 project mentioned above, completed a final white paper describing her findings. The paper can be found online here. Key findings from the report indicated the primary needs to support district energy projects in Eugene include: • Increased staff and public familiarity with district energy projects • Increased municipal capacity to support district energy projects • Clear municipal energy planning goals and roles • A clear framework for supporting community energy generation projects • Code language addressing district energy • A Eugene-specific district energy opportunity assessment • Financing models that disperse risk to multiple parties, not only land developers

3.4b) Complete the viability study for a district energy system for the EWEB Riverfront Master Plan.

Status 2011	Completed: EWEB completed a feasibility study for the development of a district energy system in conjunction with the sale of EWEB's downtown riverfront property.
Status 2012	Complete

3.4c) Develop at least one clean district energy, or shared energy, system pilot project by 2015 by working with property owners and local utilities.

Status 2011	Findings from research (above, 3.4a) will identify the priorities for accomplishing this action.
Status 2012	No significant change

4.1. Encourage the use of passive systems in buildings for heating, cooling, ventilation, water delivery, and incorporate climate change preparation strategies into building design and construction.

Status 2011	City of Eugene Waste Prevention and Green Building staff actively engaged in legislative discussions on the Oregon Reach Code (see action 2.1 above) and specifically on the inclusion of energy performance standards aligned with Passive House certification. The City of Eugene and Cascadia Green Building Council hosted a presentation on commercial Passive House design on 9/20/11. In spring 2012, with the support of multiple funding sources and tax credits, St. Vincent DePaul will begin construction on Stellar Apartments, a project that will provide 54 units of new affordable rental housing. This will be the first affordable housing project in Eugene that will test an innovative Passive House design. The entire development is designed to achieve Earth Advantage certification, which includes energy efficient design and equipment and solar hot water, features that will lower renter's utility costs. The City of Eugene Waste Prevention and Green Building Program and EWEB are providing support to construct part of the project using a Passive House design, an approach has been proven to decrease energy use for heating up to 90% without extensive upfront cost increases. To learn as much as possible from this project, the City of Eugene will fund a study to compare the benefits from Earth Advantage and Passive House designs. The project will be completed in 2013. For more information, contact Becky L. Wheeler becky.l.wheeler@ci.eugene.or.us or Jenna Garmon jenna.r.garmon@ci.eugene.or.us.
Status 2012	The City funded a life-cycle assessment (LCA) of the Stellar Apartments to evaluate whether the environmental impacts from the added materials required for Passive House certification (insulation, etc.) are outweighed by the long-term operational energy efficiency and climate benefits. The study concluded that even though there are significant environmental impacts associated with the additional building materials, they would be offset by the long-term increase in building efficiency.

4.2. Provide education, assistance and incentives to reduce potable water use in new and existing buildings and landscaping.

Status 2011	The City of Eugene, EWEB, and NearbyNature, in conjunction with a host of donors, constructed a Water Wise Demonstration Garden located in Alton Baker Park that includes low water use plants, efficient irrigation a rainwater harvesting system, and a functioning rain garden and bioswale. More information can be found at: www.eweb.org/Public/insert.pdf From January 2011- August 2011 BRING's RE:think program worked with 33 businesses to install water-saving devices in more than 40 facilities.
Status 2012	Between August 2011 and August 2012, Bring Recycling's RE:think Business program reached 31 new businesses and certified seven. This work resulted in the installation of 42 water saving fixtures (shower heads and faucet aerators). EWEB and the City of Eugene partnered to present a 2012 education/workshop series highlighting the Water Wise Demonstration Garden in Alton Baker Park. EWEB again participated in and sponsored the Lane County Extension Service's Sustainable Landscape Program workshop. Evaluation shows that 2010 workshop participants reduced outdoor water use by 144,000 gallons in July and August of 2012.

4.2a) Lobby to improve state building codes.

Status 2011	In August, 2011, the Oregon Environmental Quality Commission approved rules that create a new, statewide program permitting graywater reuse and disposal systems. Oregon Department of Environmental Quality (DEQ) expects to begin issuing permits for graywater reuse and disposal systems in spring 2012.
Status 2012	According to the DEQ website: "DEQ administers a new program that permits the reuse of graywater through a graywater reuse and disposal system. The 2009 Oregon Legislature, with the passage of House Bill 2080, authorized development and adoption of rules to create the graywater permitting program. Oregon's Environmental Quality Commission approved the rules on Aug. 25, 2011. DEQ began accepting graywater permit applications in April 2012." www.deq.state.or.us/wq/reuse/graywater.htm EWEB participated in the development of code that has been adopted in the water conservation sections of the Oregon Reach Building Code and the first building code addressing irrigation installation, a key driver of peak water demand.

4.2b) Develop incentives to encourage the use of passive heating and cooling systems, lighting, ventilation, and other strategies that reduce energy demand and better adapt buildings for a changing climate.

Status 2011	The City of Eugene continues to offer incentives for green building design, including Passive House buildings, through its Green Building Incentive Program.
Status 2012	Between summer 2011 and summer 2012, approximately 76 projects have participated in the City's Green Building Incentive Program, which provides incentives for buildings seeking LEED, Earth Advantage, Passive House and Living Building Challenge certifications. Many of these projects included passive strategies for heating, cooling, lighting and ventilation.

FOOD AND AGRICULTURE

5.1. Begin a community campaign to educate the public about food choice as part of a climate-friendly lifestyle.

Status 2011	Thirteen students enrolled in the Climate Masters at Home program, operated in the spring of 2011 by the City of Eugene Recreation program.
Status 2012	No update available

5.2. Implement a "Buy climate-friendly first" food purchasing policy for public institutions including city and county governments, schools, and hospitals.

Status 2011	The University of Oregon dining halls buy approximately 20% of their food from local growers – this consists primarily of diary, meats, produce and flour. The University also purchases numerous products that, while not grown locally, are made in Eugene. In addition, the dining halls provide complete vegetarian meals to enable students to reduce meat consumption when desired.
Status 2012	Initial research to support the development of a model food purchasing policy was conducted by a student intern in summer 2012. The research included a literature review of best practices and data on the life-cycle carbon emissions associated with food production and consumption. Research findings revealed few resources specific to climate-friendly food purchasing, with most guidelines and sample policies addressing sustainable food purchasing more broadly. In a related development, Metro, the elected regional government in the Portland area, and the Oregon Department of Environmental Quality are considering sponsoring a meta-analysis on the question of low-carbon food purchasing. Further action is not expected until 2013 due to staffing and resource constraints. While locally sourced food does not necessarily mean "climate friendly", increasing local consumption of locally-grown foods can improve nutrition and can benefit the local economy by supporting local growers. The Farm to School Program operated by Willamette Farm and Food Coalition helps connect Lane County schools with local growers to increase the amount of locally grown and processed food served in schools. The Farm to School Program 2012 report indicates: • Lane County grown produce purchased by Lane County Schools increased 268 % between 2009 and 2012. • 32% percent of Bethel School District's food purchases in 2012 came from Lane County farms, dairies or food processors. The district spent a total of $179,200 on Lane County products in 2012. • Eugene 4J school district has continued to increase its purchasing of locally grown fruits and vegetables from 1,340 pounds in 2009 to 28,533 pounds in 2012.

6.1. Transition to agricultural methods that reduce GHGs. Support efforts of Oregon Department of Agriculture, Oregon Tilth, Oregon State University, Willamette Farm and Food Coalition, and other partners.

Status 2011	The McKenzie River Trust, with funding from EWEB, the Bonneville Power Administration and a contribution from Richard and Sandra Hunsaker, is now overseeing operation of an organic demonstration farm on the McKenzie River. The farm is designed to demonstrate the business case for improving water quality through the mutually beneficial practices of growing organic produce and improving riverside habitat. While not all organic food production results in lower in greenhouse gas emissions, organic production eliminates applications of conventional fertilizers that are made with large quantities of natural gas, thereby increasing the likelihood of fewer emissions. EWEB encourages farmers within the McKenzie River watershed to adopt organic practices by paying for organic farm certification for farmers within the watershed. Oregon State Department of Agriculture continues to promote a variety of activities that reduce greenhouse gas emissions. Staff has worked with several farmers in the southern Willamette Valley to apply for tax credits to support a transition to no-till practices in their grass seed and grain growing operations. No till practices are expected to reduce diesel use anywhere from 30%-80%. Oregon's Roadmap to 2020, the state climate action plan, contains an agricultural roadmap to achieve Oregon's greenhouse gas reduction goals by 2020. This was developed by Oregon Department of Agriculture, Oregon Department of Energy, and Oregon Environmental Council. In addition, Oregon Department of Agriculture worked with the Oregon Department of Energy and local organizations in several areas of the state to distribute federal stimulus dollars for irrigation efficiency improvements that reduced electricity consumption, reducing the risk of nitrous oxide emissions by minimizing saturated soils, and also saved water, an important climate adaptation strategy. OSU Extension Service – Lane County hosts a new program called Sustainable Landscape which is directly aimed at reducing inputs including water, fertilizer, and pesticides, into the local landscapes. All three of these inputs require energy and/or petroleum to produce and/or apply. Since late 2008, the program has held 16 classes, reaching over 320 people.
Status 2012	No update available.

6.2. Conduct a pilot project at the River Avenue Wastewater Treatment Plant to determine the system's ability for co-digestion of food waste and biosolids as detailed in the Consumption and Waste section.

Status 2011	No progress to report.
Status 2012	Essential Consulting Oregon is providing project management services for the development of a biogas plant in the Junction City area. The plant, expected to be up and running in April 2013, will be able to process 100 tons of commercial organics each day. It will contain an anaerobic digester and a combined heat and power system that will generate electricity that will be fed back into the electric grid. Supply agreements are in place for several sources of commercial organics and, while none of the current sources are from Eugene, the plant has capacity to process all of the commercial organics currently being collected in the Eugene area. The plant is located within the Urban Growth Boundary of Junction City and in the planning authority of Lane County.

7.1. Strengthen land use regulations that protect farm lands, particularly those on high-value agricultural soils.

Status 2011	Envision Eugene (www.envisioneugene.org) the City's long term land use planning process, has identified multiple priorities. Several strategies within Envision Eugene address farmland and the Urban Growth Boundary specifically: "Meet all of the 20-year multi-family housing and commercial (office and retail) lands needs within the existing UGB, through development of vacant lands and also focusing new development and redevelopment on key transit corridors and core commercial areas (including downtown)." Meeting land needs within the existing urban growth boundary prevents expansion into adjacent farm lands. "Preserve valuable farm land outside the UGB." This strategy addresses the concern raised by many members of the public, that farmlands be protected. Lane County and the City of Eugene are working collaboratively to identify urban reserves that will protect farmlands adjacent to Eugene's urban growth boundary while identifying where Eugene will develop should additional acreage be necessary for the next 20-years growth.
Status 2012	City of Eugene Planning staff continue to explore options for an urban growth boundary (UGB) expansion at the direction of Eugene City Council, and consistent with Oregon state law. Although some farm land is currently under consideration for UGB expansion, state law and community values give strong prioritization on the preservation of high value farmland.

? 7.2. Strengthen current farmland protections at state levels.

Status 2011	According to Oregon Department of Land Conservation and Development staff, there were a handful of bills passed in 2011 that affect farm land but the changes are not expected to be significant. Though new legislation and DLCD rulemaking over the last year provides no new protections of farm land, the changes are described as primarily clarifying and fairly neutral in their impact on farmland. In general, the bills mad it easier for land owners to include "non-farm uses on farmland including restaurants at large wineries, [and] more event venues on farmland." Details on state land use legislation can be found here: www.oregon.gov/LCD/docs/legislative/landusebills2011.pdf
Status 2012	No update available.

? 7.2.a) Lobby state agencies to strengthen protections for high-value farmlands.

Status 2011	No progress
Status 2012	No update available.

8.1. Implement the following recommendations from Eugene's Food Security Scoping and Resource Plan.

8.1.a) Identify a City of Eugene liaison for food-system related programming

Status 2011	Completed in Fall 2010. 1 full time position at the City of Eugene is now dedicated to coordinating urban food production.
Status 2012	Completed in 2011

8.1.b) Develop a comprehensive Community Food Security Assessment and implement changes to improve food security.

Status 2011	A Lane County Local Food Market Analysis was completed in September 2010. This award-winning applied research project and associated report, conducted by University of Oregon Community Planning Workshop and funded by the UO Economic Development Agency, Lane County, EWEB, and the City of Eugene, is a foundational document for a regional food security plan. The report includes information about local food supply, local food demand, economic forces, local crop production, and gaps and recommendations for improvement to the local food system. The report is available online at: https://scholarsbank.uoregon.edu/xmlui/handle/1794/10927
Status 2012	In March 2012 the Eugene Sustainability Commission authored a list of food and agriculture related recommendations provided to Eugene City Council. The recommendations were the result of interviews of food industry experts carried out by Sustainability Commissioners over the course of several months. There are 24 recommendations included in the memo including these three immediate actions the subcommittee felt should be taken in 2012: • Work with public and private partners to create a larger and more accessible, seasonal farmers market in Eugene; • During the implementation phase of Envision Eugene, update the land use code to facilitate the siting of food processing facilities; and • Request that the Mayor appoint a time-limited Food Policy Task Force to make recommendations regarding feasible policies and actions to enhance local food economy and security, with special attention to (i) mapping urban food production site opportunities, (ii) utilizing partnerships to enhance community garden productivity, and (iii) reviewing other policies and actions for implementation. Additional detail included in the full memo to City Council can be viewed at: www.eugene-or.gov/DocumentCenter/View/10518

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8.2. Develop an updated regional emergency food distribution plan that accounts for climate- and energy-based disruptions. The level of need for such a plan will be made clear by conducting a vulnerability assessment as outlined in the Health and Social Services section.

Status 2011	No significant changes to report
Status 2012	No update available

8.3. Increase the diversity and drought resistance of food crops grown in the upper Willamette Valley.

? 8.3a) Support efforts of food-advocacy organizations, food growers, and state agencies to develop appropriate crops.

Status 2011	Oregon Department of Agriculture (ODA) continues to administer US Department of Agriculture (USDA) specialty crop grant funds to support development of specialty crops in Oregon. ODA has a marketing specialist that works specifically to help promote farmers' markets and other local agricultural marketing opportunities. ODA employs a Farm-to-School coordinator who works to connect agricultural producers with school food purchasers. OSU Extension Services – Lane County hosts numerous classes to teach local farmers how to grow more local food crops.
Status 2012	No update available

8.3b) Prioritize development of vegetable protein crops such as beans and grains that are suited to the Willamette Valley.

Status 2011	In 2011 a new grain mill opened in North Eugene. This mill and the one in Brownsville are now providing a variety of milled grains to bakeries up and down the Willamette Valley marking a huge step in the production of local staple crops. Growers continue to grow several varieties of beans and grains including some without irrigation. Several growers are transitioning their land into organic production to grow grains for sale locally. Conventional wheat acreage has increased from 30,000 acres in 2006 to over 200,000 in 2011 primarily due to increasing wheat prices and falling prices for ornamental grass seed – however most of this grain is shipped to Asia. Critical next steps include building dry storage for wheat and beans and creating a year-round market for direct sales of beans and grains. More information about Willamette Valley bean and grain production can be found online at: www.mudcitypress.com/beanandgrain.html Thank you to Dan Armstrong for helping to generate this report.
Status 2012	The production of beans and grains for local consumption made modest gains in 2012. Early returns suggest nominal increases in acreage of wheat and dry beans. Barley, oats, rye, and dry corn have been added to the production mix after minor success in 2011. As long as commodity wheat sells for $7 or more, as it does now, it is a viable alternative to grass seed production. Wheat prices on the international market have remained steady in the $8-9 a bushel range, a market signal that will encourage wheat production in the valley destined for the global market. This year Tom Hunton, owner of Camas Country Mill led a consortium of local growers who contracted with Food for Lane County to grow 240,000 of beans and grains to create a dry-chili mix to distribute in local food pantries. Three key issues remain at the top of the list for continued bean and grain production: 1. Lack of dry storage for wheat 2. Inefficient product delivery systems 3. Lagging consumer demand for local products.

? 8.4. Remove barriers to using graywater in agriculture. Work with state lawmakers to find solutions for graywater re-use.

Status 2011	No progress to report
Status 2012	No update available

9.1. Expand community gardens on public and private lands including school campuses, City lands, and church properties.

Status 2011	Over the last year the Victory Gardens For All program facilitated installation of 242 new vegetable gardens in the Eugene area. For more information about the program, contact Charlotte at 653-0149 or visit www.victorygardensforall.org The School Gardens Project of Lane County built one new school (vegetable) garden, expanded two existing gardens, and built one new native plant garden in Eugene. More information about the School Gardens Project of Lane County at: http://members.efn.org/~sgp/ The City of Eugene is providing funding for the School Garden Project to install composting facilities and school gardens in five Eugene schools in 2011. A West Eugene neighborhood association, the Active Bethel Citizens (ABC), is conducting a Strategic Neighborhood Assessment and Planning (SNAP) project with assistance from the City of Eugene Neighborhood Services. The SNAP focuses on food security at the neighborhood level and will include comprehensive community outreach and assessment of residents' needs and willingness to support better access to food, skill building in food self-sufficiency (home gardens, orchard, beekeeping, food preservation, etc.), a local farmer's market, and small-scale bean and grain cultivation. More information can be found at: www.eugene-or.gov/neighborhoods
Status 2012	Last school year School Gardens Project of Lane County helped build 3,056 square feet of new garden space at six schools: Howard Elementary, Irving Elementary, Riverfront Alternative High School, Roosevelt Middle School, Shasta Middle School and Village School. School Gardens Project of Lane County also started composting programs at 5 schools that now divert an average of 90 lbs. of food waste per day. The Active Bethel Citizens neighborhood association, in partnership with Bethel School District, is developing a neighborhood farm site at Fairfield Elementary School. The site will be open to neighbors who want to grow food together, share the work of creating and maintaining the garden, and share what they've grown. A list of recommendations from Eugene Sustainability Commission to Eugene City Council (highlighted in 8.1b) requests the Mayor appoint a time-limited Food Policy Task Force to make recommendations regarding feasible policies and actions to enhance local food economy and security, with special attention to (i) mapping urban food production site opportunities.

9.1a) Conduct an assessment of opportunities for community garden locations within the city.

Status 2011	The City of Eugene Compost and Urban Agriculture Coordinator is developing an Urban Agriculture Manual for the public to clarify and define resources for the development of neighborhood gardens in Eugene.
Status 2012	Development of an Urban Agriculture Manual has been discontinued. The current network of community food gardens within Eugene provides opportunities for residents to find gardening space and supports local community partners such as Food For Lane County. Additionally, the City's Compost and Urban Agriculture Coordinator and Land Use staff are available to help community members determine site suitability and the proper development of a community garden as the need arises.

9.2. Encourage planting of non-invasive food-bearing trees and shrubs on public and private lands. Support urban tree food programs of such advocates as Tree by Tree, and the Eugene Tree Foundation (now Friends of Trees).

Status 2011	In November 2010, Eugene Tree Foundation (now Friends of Trees) conducted their first yard and fruit tree planting, placing a total of 41 fruit trees in the ground in the Trainsong neighborhood. More information at www.eugenetreefoundation.org. Tree by Tree has provided valuable training and support by identifying, tracking, pruning, harvesting, and processing food trees in the Bethel neighborhood. The Avalon Project, Home Orchard Society, Lane County Extension, Eugene Permaculture Guild and various neighborhood groups have also made important contributions to using food trees locally. In the past 12 months the School Garden Project of Lane County began a Schoolyard Orchards program that resulted in the planting of 41 new fruit trees and numerous fruit-bearing shrubs in Eugene. More information at www.schoolgardenproject.org
Status 2012	Friends of Trees is offering non-invasive food bearing trees to residents for yard plantings across Eugene and Springfield for the 2012-2013 planting season. Four community plantings will take place in north, west, and south Eugene in 2012-2013 where volunteers will plant food-bearing trees. More information available online: https://friendsoftrees.org/plant-it-programs School Garden Project of Lane County planted approximately 6 fruit bearing trees in the past 12 months.

9.3. Reevaluate limitations on numbers and types of animals permitted under Eugene's code to allow, where appropriate, an increase in the number and variety of food-producing animals that can be kept by urban residents.

Status 2011	Envision Eugene (www.envisioneugene.org) will be accompanied by updates to City code that will address this issue.
Status 2012	City staff is actively working on Code Amendments to the Farm Animal Standards in EC 9.5250. A work session with the Planning Commission is scheduled for October 2012, with a Planning Commission public hearing sometime in December 2012. Current information about the status of this process is available at: www.eugene-or.gov/farmanimals

LAND USE AND TRANSPORTATION

10.1. Make the creation of 20-minute neighborhoods a core component of the Eugene Plan and the Eugene Bicycle and Pedestrian Master Plan.

Status 2011	The policy section of the Draft Pedestrian and Bicycle Master Plan contains the following: "Create 20-minute neighborhoods by providing accessible, efficient, and convenient methods for pedestrians and bicyclists to travel to the places where they live, shop, work and play by expanding and improving Eugene's bicycle and pedestrian network." The Draft Pedestrian and Bicycle Master Plan includes the following recommended policies: 1.1: Make bicycling and walking more attractive than driving for trips of two miles or less. 1.2: Increase pedestrian and bicycle connectivity between existing residential neighborhoods and nearby commercial areas, parks, and schools. 1.5: Construct high-quality pedestrian and bicycle infrastructure to provide safer, more appealing and well-connected facilities. 1.8: Provide a continuous sidewalk network along all city streets that have been upgraded to urban standards or as part of urban standards upgrades to unimproved streets. The Draft Pedestrian and Bicycle Master Plan will be available online in the fall of 2011. More information about the plan can be found at: www.eugenetsp.org The Plan for climate change and energy uncertainty section of the Envision Eugene draft proposal contains a strategy to: "Plan for growth so that an increasing proportion of residents live in 20-Minute Neighborhoods where residents can meet most of their daily needs within walking distance from their homes. This strategy is intended to reduce the need for, and reliance on, motorized forms of transportation." More information at www.envisioneugene.org
Status 2012	In March 2012, Eugene's Pedestrian Bicycle Master Plan was completed and accepted by Eugene's City Council. It contains several objectives including: "Objective 1—Network: Create 20-minute neighborhoods by providing accessible, efficient, and convenient methods for pedestrians and bicyclists to travel to the places where they live, shop, work and play by expanding and improving Eugene's bicycle and pedestrian network."

10. 2. By 2013, complete and implement a 20-minute neighborhoods plan.

Status 2011	In the winter of 2010 the City of Eugene Planning Department funded a 20 minute neighborhoods assessment that identified key components of a 20 minute neighborhood, determined existing conditions and located needs. Projects that support the concept of 20 minute neighborhoods continue to be planned and built throughout Eugene and this assessment has spurred planning that will create more 20 minute neighborhoods. The assessment can be found online at: www.eugene-or.gov/twentyminuteneighborhood
Status 2012	In 2012 City staff and leaders from the Northeast Neighbors began work on a collaborative planning project that will apply the 20-Minute Neighborhood concept as a lens to analyze two areas of the neighborhood. The project will engage neighbors, identify opportunities and barriers, and result in an action plan addressing land use, transportation, businesses, services and other neighborhood elements. This project will serve as a pilot 20-minute neighborhoods project that could be applied to other neighborhoods in the future.

11.1. Zone future commercial and high-density residential uses in and around the urban core, and along EmX and other high capacity transit corridors to accommodate urban growth.

Status 2011	Through Envision Eugene, the City's long term land use planning process, the community has identified a variety of priorities to guide growth over the next 20 years. The following strategies, included in the "Compact Development" pillar of the Envision Eugene draft proposal, support action 11.1: Strategy 1: Meet all of the 20-year multi-family housing and commercial (office and retail) lands needs within the existing UGB, through development of vacant lands and also focusing new development and redevelopment on key transit corridors and core commercial areas (including downtown). Strategy 2: Facilitate the transformation of key transit corridors and core commercial areas as mixed-use neighborhoods that foster active, walkable, community living by providing a mix of residential, commercial, retail, and public uses in proximity to one another- in many cases within a single building. Strategy 4: Make compact urban development within key transit corridors and core commercial areas easier. More information about Envision Eugene can be found at www.envisioneugene.org
Status 2012	The land use policies for Envision Eugene continue to be developed and discussed by City Council.

12.1. Closely monitor the community's population growth rate to gauge whether population projections are accurate.

12.1a) Set population thresholds that will trigger review of community growth plans; for example, if growth rates are significantly different than projections for several years in a row.

12.1b) If trends show a significantly higher rate of population increase than was assumed in the planning process, Eugene should update its planning model sooner than legally required.

Status 2011	Through Envision Eugene, the City's long term land use planning process, the community has identified a set of core "pillars" and strategies to guide growth over the next 20 years. One of these pillars is to, "Provide for adaptable, flexible, and collaborative implementation," and includes the following strategy: Create an ongoing monitoring system to collect and track key information. • Identify specific plan goals and objectives to be monitored, such as housing mix. • Identify types of data needed to collect to support monitoring, such as population growth, densities, types and numbers of housing units constructed, job growth and rate of land consumption. More information about Envision Eugene can be found at www.envisioneugene.org
Status 2012	Work is progressing on the creation of an ongoing monitoring system, including: 1. Identification of goals and objectives to be monitored 2. The types of data needed 3. The tools necessary to collect, analyze and report the data. City of Eugene Planning staff anticipates having draft materials available before the end of 2012. More information about Envision Eugene can be found at www.envisioneugene.org

13.1. Create a pedestrian and bicycle master plan that will accomplish the following:

13.1a) Identify mobility gaps in the bicycle and pedestrian transportation system.

13.1b) Recommend improvements to increase safety (real and perceived), comfort, speed, and convenience for users of all ages and skill levels.

13.1c) Create a plan for implementing the necessary system improvements.

13.1d) Identify funding sources for implementation.

Status 2011	The draft Pedestrian and Bicycle Master Plan contains a list of recommended pedestrian and bicycle improvements in every neighborhood of the city. Recommendations were shaped by public input from four Walking and Biking Summits, online mapping exercises, surveys, public open houses, and a neighborhood toolkit. A final draft of the Pedestrian and Bicycle Master Plan will be available for public review in early September, 2011 with the final draft presented to the City Council on October 12. Adjustments and adoption of the plan are expected to be completed by early 2012. The draft plan proposes a 20-year project list that would require an estimated $60 million. This is approximately 50% more than the amount of funding that the city has spent in recent years on pedestrian and bicycle facilities.
Status 2012	The Pedestrian and Bicycle Master Plan was accepted by Council in March 2012 as a working document for bicycle and pedestrian planning and improvements. The plan will be adopted as part of the Transportation Systems Plan in 2013. Maps and project tables list a variety of pedestrian and bicycle improvements throughout the city. The tables include a Prioritization Tier and the city's Bicycle and Pedestrian Advisory Committee has begun developing a strategic 3-5 year action plan to further prioritize short-term projects. The plan also includes two tables with federal, state, and local funding sources. Implementation of the plan is underway with six bicycle facility projects completed in the summer of 2012 using city bond funding.

13.2. Increase the mileage and connectivity of bicycle boulevards and shared-use paths to encourage biking by cyclists of various skill levels.

Status 2011	Over the past 12 months several bicycle facility projects have been completed or are nearing completion, including a pedestrian and bicycle bridge at Delta Ponds, the West Bank Path Extension (under construction), and the Alder Street Cycletrack (under construction).
Status 2012	Bike boulevards completed over the last year: • Brittany (0.64 miles) • Minda (0.35 miles) • Augusta (0.8 miles) Bike lanes completed: • W 24th Ave (0.61 miles) • Oakmont Way (0.16 miles) • Silver Lane (0.51 miles)

13.3. Create a "Complete Streets" policy that requires all subsequent transportation and rehabilitation projects to incorporate infrastructure for bicycles, pedestrians, and mass transit service.

Status 2011	The city is currently developing a new Transportation System Plan and through this process new policies will be advanced that include a more explicit complete streets policy approach.
Status 2012	The process to update the Transportation System Plan is in progress and resulted in draft goals, objectives, and policies that will fulfill the Complete Streets concept encouraging more balanced, complete, and integrated transportation systems, improving transportation choices, improving safety, and supporting "20-minute neighborhoods" – without implying that every street is appropriate for widening to accommodate exclusive right-of-way for every mode.

14.1. Diversify funding sources for Lane Transit District (LTD) to increase the long-term reliability of mass transit service while maintaining cost effective and fuel efficient transit service.

Status 2011	Approximately 75% of LTD operating costs are currently funded through payroll taxes that are subject to economic cycles and fluctuations. This results in budgeting challenges when planning for levels of service. In addition, some routes occasionally experience peak ridership that exceeds capacity. LTD is in the process of developing a long range transit plan that, among other things, will determine the level of community service that LTD can sustain in the long term. During the 2011 State legislative session State funding was cut for the popular Student Transit Pass program that provided bus passes for over 24,500 6th-12th grade students in the LTD service area. LTD ridership statistics indicate a significant increase in bus ridership over the past five years. During the same period service levels have flattened out due to budget constraints.
Status 2012	No update available

14.2. Align City of Eugene Transportation System Plan and LTD's long-range transit plan to integrate bus routes into the broader alternative transportation system.

Status 2011	The City of Eugene is updating TransPlan with a city of Eugene-only Transportation System Plan (TSP). Lane Council of Governments (LCOG) will prepare a Regional Transportation System Plan, and Lane Transit District (LTD) is preparing a Long Range Transit Plan. LTD staff provide technical assistance to the Eugene Transportation System Plan and City of Eugene staff provide technical assistance to LTD's planning effort. The LTD plan will inform the transit element of the Eugene Transportation System Plan, and Eugene's Transportation System Plan will inform the Regional Transportation System Plan developed by LCOG. Therefore, the plans will be integrated and consistent upon completion. The Transportation System Plan will primarily address the Bus Rapid Transit routes and policy basis for transit planning and will be less likely to address planning for specific local bus routes. EMX service intentionally connects to bike routes and multi-use paths and multimodal system upgrades and connections are made at the time of construction. Construction of the Gateway EMX route in Springfield included multiple improvements to the nearby bicycle and pedestrian facilities.
Status 2012	No update available

14.2a) Partner with LTD to help inform service changes and improvements.

14.2b) Create special setbacks along future Bus Rapid Transit (BRT) or other mass transit corridors to accommodate future right-of-way expansion.

Status 2011	Methods for accommodating Bus Rapid Transit on the W. 11th corridor were discussed at a City Council work session in summer, 2010. Eugene City Council moved to direct staff to proceed with amending the Street Right of Way Map for West 11th Avenue to allow for future improvements to that street. This effort is currently moving forward in conjunction with Envision Eugene as well as ongoing LTD work on the W. 11th EmX Extension project.
Status 2012	Discussion and outreach with affected property owners is ongoing. Future action on this item will be dependent, in part, upon decisions and direction of the EmX project being made by LTD, Eugene City Council, and Lane County Board of Commissioners.

? 14.2c) Determine the role of mass transit in accomplishing greenhouse gas emission reduction goals by working with LTD in developing the Long Range Transit Plan.

Status 2011	Transit- related greenhouse gas emissions will depend on many factors including ridership, land use, future EmX routes, and vehicle technology. Eugene is currently in the process of developing a Eugene-specific Transportation System Plan (TSP). Greenhouse gas emissions and the ability of transportation systems to remain resilient to potential changes in climate is emerging as an issue to be addressed in the Eugene TSP. The Eugene TSP program will be able to compare alternative transportation strategies, but the basic tools for measurement are not yet developed. The City of Eugene lacks the land use projections necessary for more precise predictions at this time. The Oregon Sustainable Transportation initiative is developing tools for measuring greenhouse gas reduction strategies in all Oregon Metropolitan Planning Organizations (MPOs), but these are not expected to be ready for use in this region until after the TSP is completed.
Status 2012	No update available

14.3. Invest in transit infrastructure that meets future access and mobility needs while consuming less fossil fuel.

? 14.3a) Maximize electrification of the regional mass transit systems.

Status 2011	Transitioning all LTD vehicles to a fully electrified system would be expensive. At the same time, because LTD is relatively small, maintaining and operating buses with a variety of propulsion systems (hybrid, all electric, all diesel) would not be feasible because of the additional tools, maintenance skills, vehicles, and infrastructure that would be required. Rising fuel prices are driving LTD conversion to hybrid vehicles (see below) and are likely to ultimately drive a shift toward an electrified fleet.
Status 2012	No update available

? 14.3b) Increase use of hybrid vehicles including buses and other heavy vehicles.

Status 2011	LTD will add 24 more hybrid buses to its fleet in 2012. Once delivered, 43% of Lane Transit District's active fleet will be hybrid electric. The latest purchase of hybrid-electric buses is providing a 39% increase in fuel economy resulting in approximately 6,000 gallons of diesel saved in the first six months.
Status 2012	No update available

15.1. Increase promotion of bicycling, walking, mass transit, carpooling, telecommuting, high-occupancy vehicles, and emergency ride home programs as attractive alternatives to driving.

Status 2011	The Business Commute Challenge is an outreach program organized by Point2Point Solutions, that incentivizes employees to commute to work for a week using a mode other than driving to work alone. Participation in this program has grown over the last few years.
Status 2012	The numbers from the Business Commute Challenge demonstrate this continues to be a popular method to involve people in trying out new methods of commuting to work. There is a noticeable reduction in overall commute figures and telecommute figures specifically. This is largely because last year Point2Point allowed out of state teleworkers to participate if they worked for an Oregon company. This year, only staff based in Oregon were allowed to report telecommute mileage.

	2009	2010	2011	2012
Registrants				
Total Registrants	1,173	2,246	2,329	2,151
Total 1st Time Registrants	n/a	1,086	1,308	920
Miles	45,976	63,904	92,958	68,784
Modes				
EmX Miles	n/a	n/a	3,507	2,059
Bike Miles	16,135	16,331	26,564	25,451
Bus Miles	9,132	13,007	13,803	7,862
Carpool Miles	17,771	23,024	31,372	20,213
Walk Miles	1,156	1,902	2,832	1,232
Telecommute	1,608	8,914	13,877	5,296
Other	174	726	1,003	6,673
Totals	**45,976**	**63,904**	**92,958**	**68,784**

Figure 1: 2012 Business Commute Challenge Statistics – Chart courtesy Point2point Solutions

15.2. Increase the community's understanding of fuel-efficient driving techniques.

Status 2011	15 Climate Masters students received training on fuel-efficient driving techniques in 2011.
Status 2012	No update available

16.1. Plan for efficient freight transportation that minimizes greenhouse gas emissions and fossil fuel consumption, and accomplishes the following: 16.1a) Connects multiple modes—train, truck, van, car, bicycle. 16.1b) Accommodates upper Willamette Valley commercial, industrial and agricultural freight needs. 16.1c) Facilitates efficient local deliveries.

Status 2011	The City of Eugene is updating TransPlan with a City of Eugene-only Transportation System Plan (TSP) and Lane Council of Governments (LCOG) will prepare a Regional Transportation System Plan. Freight movement will be an element of the new TSP, but policies have not yet been developed. The new Oregon Freight Plan will provide guidance.
Status 2012	No change from 2011. The City of Eugene continues work to update the Transportation System Plan and continues work to integrate Climate and Energy Action Plan strategies within the TSP.

17.1. Accelerate the transition to plug-in hybrids and electric vehicles. Partner with Lane County, EWEB, auto retailers, electrical contractors, UO, LCC, and others.

17.1a) Support the installation of a network of electric car charging stations.

Status 2011	The City of Eugene has been working with ECOtality, the company leading the federally funded EV (electric vehicle) Project, to find optimum locations for electric vehicle charging stations on City owned property. Because of high costs to retrofit private parking lots with car charging stations, progress on installing charging stations on commercial property has been slower than expected. Installations on City of Eugene properties are currently being scheduled.
Status 2012	Over the course of the year, The City of Eugene installed 18 electric vehicle charging stations across the community. In addition to the charging stations installed by the City of Eugene, EWEB installed 2 stations at the Roosevelt Operations Center and 2 stations at the EWEB headquarters building downtown. More information available at www.eugene-or.gov/parking. EWEB is conducting studies to ensure electricity generation and transmission infrastructure are able to meet the projected demand for electricity brought about by local adoption of electric vehicles.

17.1b) Require installation of electric car charging stations (or conduit to support installation of future car charging stations) in new multifamily housing.

Status 2011	There has been no change in building codes making this a requirement in new multi-family housing, and the City cannot require more restrictive building, electrical, plumbing and mechanical codes.
Status 2012	No change to report

17.2. Conduct research to understand what role biofuels can play in decreasing Eugene's vulnerability to energy markets. Work with partners at LTD, Oregon Department of Energy, etc.

Status 2011	No progress to report
Status 2012	No progress to report

CONSUMPTION AND WASTE

18.1. Educate businesses and residents about the important role of consumption in creating greenhouse gas emissions. Focus on encouraging the purchase of durable, repairable and reusable goods; reducing the amount of materials that go to waste (including food); reducing consumption of carbon-intensive consumer goods and services.

Status 2011	In August 2011, the City of Eugene began working with an ad hoc advisory team and experienced consultant to create a climate communications public outreach campaign. Initial work will focus on consumption and the relationship to greenhouse gas emissions. A recommended communication strategy and final report are expected by December 2011.
Status 2012	From August 2011 to August 2012, 42 people received comprehensive training and an estimated 7,739 people received educating or training through the Lane County Master Recyclers program. The program educates participants about the connection between materials, consumption, and climate change. Eugene residents are over 80% of enrollment of the classes held at the Glenwood classroom. Over the winter of 2011-2012, the City of Eugene's Sustainability Office conducted research on public attitudes about climate change and sustainable consumption. The results show a high level of public support for addressing climate change in Eugene. • 77 percent of Eugene residents agreed that climate change is occurring because of human causes like burning fossil fuels. • 81 percent of respondents felt that climate change requires us to entirely rethink our behavior. • 75 percent of respondents felt that climate change requires much stronger regulation of greenhouse gas emissions. Regarding attitudes about consumption, there appears to be an emerging demand for more sustainable options and a desire to support local business that can provide them. • 65 percent agreed we'll be better off by consuming less and living more simply. • In the internet survey, a significant majority agreed that consumption threatens our ecosystem (80 percent), leads to higher consumer debt (81 percent), and creates too much waste (74 percent). • Supporting local businesses that implement environmentally friendly practices was one of the top two sustainable actions people supported. City of Eugene staff is planning to host small group discussions with local business leaders in the fall of 2012 and also plan to develop of a pilot outreach program to promote more sustainable consumption activities in the community.

18.2. Lobby at the state level for better product labeling that includes information about greenhouse gas emissions associated with products.

Status 2011	No progress to report
Status 2012	City staff participated in a statewide stakeholder process hosted by the Department of Environmental Quality that produced a draft Materials Management in Oregon: 2050 Vision and Framework. The Framework includes recommendations for both product standards and product labeling for carbon emissions. The Framework will be presented to the Environmental Quality Commission for adoption in fall 2012.

18.3. Provide information for the public on when to replace high energy-use appliances such as refrigerators, dishwashers, and water heaters. Where this information is already available, increase its distribution and accessibility.

Status 2011	BRING recycling operates a RE:think program that began in 2009 and assists business owners in reducing energy use, water use, and waste generation. Among other things, the program helps business owners decide when it's appropriate to upgrade inefficient appliances such as refrigerators and air conditioners.
Status 2012	No change to report

18.4. Actively support new state and national product stewardship legislation that requires producers to be involved in end-of product-life management, either through product design changes (e.g. compostable snack bags), investing in take back programs (e.g. Oregon E-cycles), or placing a fee on the sale of products to support diversion (e.g. Oregon Bottle Bill).

Status 2011	The City of Eugene supports product stewardship legislation as it comes up in state legislative sessions. No new product stewardship laws were passed in the 2011 legislative session.
Status 2012	City staff participated in a statewide stakeholder process hosted by the Oregon Department of Environmental Quality that produced a draft Materials Management in Oregon: 2050 Vision and Framework. The Framework includes recommendations for advancing product stewardship programs including: • Prioritize products and materials for product stewardship programs based on DEQ's product stewardship principles and support legislation consistent with these principles. • Develop and enforce management standards for extended producer responsibility (take-back) programs. The Framework will be presented to the Oregon Environmental Quality Commission for adoption in fall 2012.

19.1. Target expanded recycling outreach and services to commercial and multi-family residential building owners and occupants, including local businesses, apartment buildings, and student and cooperative housing.

Status 2011	From January to August 2011, BRING's Re:Think program helped 33 business owners reduce energy use, water use, and waste. Multifamily residential building owners and occupants, apartment buildings, and student and cooperative housing are not targets of this program.
Status 2012	BRING RE:think Business Between August 2011 and August 2012, Bring Recycling's RE:think Business program reached 31 new businesses and certified seven. City of Eugene investment During the 2011/2012 School Year, the City of Eugene contracted with the University of Oregon's Community Planning Workshop program do research and design a voluntary program that would increase the recycling rates within multi-family residential properties. The project was completed in July of 2012. City staff is developing the budget, identifying lead staff, and working with area haulers to implement the program in 2013.

19.2. Enact a local ordinance to increase waste recovery rates from commercial and multi-family buildings.

Status 2011	No change
Status 2012	No change

19.3. Assist businesses in improving paper, metal and glass recycling with a goal of supporting 5 percent of the community's businesses each year. Aid partners by promoting events or trainings, providing space for trainings, assisting with funding, etc.

Status 2011	From January to August 2011, BRING's Re:Think program helped 33 business owners reduce energy use, water use, and waste. The program suggests changes in business practices to reduce paper use, substitute disposables with the purchase of durable goods (water bottles and hand towels for example), and purchase goods that are non-toxic and contain recycled content.
Status 2012	BRING RE:think Business Between August 2011 and August 2012, Bring Recycling's RE:think Business program reached 31 new businesses and certified seven. This program is funded in party by the City of Eugene and Lane County. The program assists businesses with improving several practices including increasing recycling.

19.4. Enact an ordinance that requires all construction and demolition waste materials to be sorted for reusable or recyclable materials.

Status 2011	The City of Eugene is developing a comprehensive construction waste management program that will increase the rate of material diverted from the landfill and increase the opportunities for beneficial uses of reclaimed materials.
Status 2012	The City of Eugene Waste Prevention & Green Building Program continues to develop a Construction Material Diversion Program to promote waste reduction and reuse and recycling of construction materials in both private and City projects. Staff is targeting spring 2013 for program rollout.

20.1. Establish a permitted facility within the Eugene/Springfield area that can accept and compost (or anaerobically digest) all organic materials including food wastes.

Status 2011	In spring 2011 the Oregon Department of Environmental Quality approved permits for two commercial composting businesses in Eugene to begin composting food waste.
Status 2012	In November 2011, businesses across Eugene began receiving curbside food waste hauling through Eugene's Love Food Not Waste program. The composting program offers local businesses an alternative to throwing away an estimated 10,000 tons of food waste annually. The initiative aims to divert 3,200 tons of food waste from local landfills in its first year, thousands more tons annually down the road. To incentivize use of this new service, rates for the program are set to 20 percent below commercial garbage rates. Participating businesses also receive complimentary interior and exterior food waste collection containers. The City of Eugene is providing employee-training services at no cost. The city's commercial food waste coordinator and a hauler representative will meet with businesses on-site to deliver training and provide technical assistance.

20.1a) Develop a collection program and rate structure to support food waste collection.

Status 2011	The City of Eugene is developing the rate structure to support commercial food waste collection. Commercial food waste collection is expected to begin in Eugene in fall 2011.
Status 2012	A curbside collection program is in place for commercial food waste. To incentivize use of this new service, rates for the program are set to 20 percent below commercial garbage rates.

20.2. Conduct a pilot project at the River Avenue Waste Water Treatment Plant to determine the system ability to co-digest food waste and biosolids to generate electricity.

Status 2011	No progress to report
Status 2012	Essential Consulting Oregon is providing project management services for the development of a biogas plant in the Junction City area. The plant, expected to be up and running in April 2013, will be able to process 100 tons of commercial organics each day. It will contain an anaerobic digester and a combined heat and power system that will generate electricity that will be fed back into the electric grid. Supply agreements are in place for several sources of commercial organics and, while none of the current sources are from Eugene, the plant has capacity to process all of the commercial organics currently being collected in the Eugene area. The plant is located within the Urban Growth Boundary of Junction City and in the planning authority of Lane County. While this project is not in Eugene and not a City of Eugene facility, it meets the intent of action 20.2 to create a local anaerobic digester with the capacity to process food and other organic wastes from Eugene.

21.1. Follow research being conducted by 1) the EPA's West Coast Forum on Climate Change and Materials Management, 2) Action Item recommendations from the Materials Management subcommittee of the Oregon Governor's Global Warming Committee's Roadmap 2020 plan, and 3) Oregon Department of Environmental Quality systems-based GHG inventory, to determine highest priority and most cost effective measures to address GHG production in the materials management sector.

Status 2011	City of Eugene staff has been actively involved in EPA's West Coast Forum on Climate Change and Materials Management and the Materials Management subcommittee of the Oregon Governor's Global Warming Committee's Roadmap 2020 plan. Staff continues to seek information from Oregon DEQ greenhouse gas inventory work.
Status 2012	City staff participated in a statewide stakeholder process hosted by the Oregon Department of Environmental Quality that produced a draft Materials Management in Oregon: 2050 Vision and Framework. The Framework is a long term strategic plan for addressing the greenhouse gas impacts associated with production and consumption of goods and includes a variety of recommendations for research, policy development and partnership. Eugene will continue to engage in the implementation of the Framework once adopted by the state Environmental Quality Commission later this fall.

21.2. Determine the greenhouse gas emissions profile from the current solid waste collection system and provide recommendations on how to reduce carbon emissions within the system.

Status 2011	A solid waste system review slated for 2012 will directly address this recommendation.
Status 2012	During the 2011/2012 School Year, the City of Eugene contracted with the University of Oregon's Community Planning Workshop to identify methodologies currently being used in other municipalities that have assessed the greenhouse gas profile of their solid waste and recycling collection systems. Their findings provide recommended methods to calculate the GHG footprint of Eugene's solid waste collection systems.

22.1. Increase the effectiveness of current City of Eugene purchasing policies that prioritize: 1) Reuse of products and materials, 2) purchasing durable goods, and 3) avoiding disposable goods whenever possible. Implement the following steps: 22.1a) Set targets for these procurement policies. 22.1b) Identify measurements to monitor the impacts of these procurement policies. 22.1c) Increase efforts to implement these purchasing policies throughout the organization.

Status 2011	City of Eugene finance staff is updating financial procedures that will include guidelines and tools for departments to better incorporate sustainability principles and practices in the expenditure of City funds. Purchasing staff continue to focus on sustainability in procurement. Current efforts include setting targets and reviewing procurement policies for potential updates. In order to improve practices, procurement staff will create educational tools and begin core purchasing trainings in 2012 to educate staff about sustainable procurement practices. Finally, Purchasing staff is researching the best methods to monitor the impacts of modified procurement policies.
Status 2012	Sustainable purchasing guidelines have been incorporated into the City of Eugene Financial Manual for use as a resource to City staff as intended in 2011. In order to increase awareness of these guidelines, Purchasing staff has developed internal and external web pages on the topic of sustainable purchasing and sustainable procurement trainings are under development. Purchasing staff have developed a strategy to communicate the City's sustainable purchasing goals to the vendors with whom the City does the most business, primarily contractors who do infrastructure construction such as building and repairing roads. Purchasing and Public Works Engineering staff have met with several of these vendors to discuss the City's climate action goals, challenges and potential opportunities. Purchasing and staff City-wide continue to incorporate sustainability criteria into solicitation specifications. In early 2012 a new sustainability section was added to solicitations relaying some of the City's goals including idling reduction, waste minimization, and use of environmentally preferred products. The City aims to increase the percentage of solicitations that contain sustainability considerations by developing criteria specific to individual purchases. There remains great opportunity to incorporate sustainability language and service goals into more solicitations and contract templates, especially within the large, public improvement purchases. Tracking of all FY11 solicitations revealed that sustainability considerations were incorporated into about 40% of the solicitations by count and 76% if analyzing by dollar amount. The analysis demonstrates that requests for proposals (RFPs) are useful tools to engage vendors regarding the environmental and social impacts of their products and services.

22.2. Encourage other local public agencies to prioritize: Reuse of products and materials, purchasing durable goods, and avoiding disposable goods whenever possible.

Status 2011	No significant change
Status 2012	In collaboration with EWEB, the City of Eugene has set up a forum to increase regional collaboration, sharing of information, and to promote cross-agency networking to find common sustainable purchasing solutions. The forum includes the University of Oregon, City of Springfield, Lane County School District 4J, Springfield School District, Lane Transit District and Springfield Utility Board.

22.3. Reduce public agency purchase of greenhouse gas-intensive goods by 2014. 22.3a) Identify City-purchased goods (either directly or through contracts) with the highest associated life cycle greenhouse gas emissions by 2012. 22.3b) Create a plan to reduce purchase of the 5 goods that have both the most greenhouse gas intensive life cycles, and the highest rates of purchase. 22.3c) Annually report the quantity of these goods being purchased.

Status 2011	City of Eugene staff is conducting an updated internal greenhouse gas inventory based on 2010 data which should help identify the most greenhouse gas-intensive purchases. The updated inventory is expected to be completed in fall 2011. The first annual report for the most greenhouse gas intensive purchases is scheduled for completion in 2012.
Status 2012	In 2011 Purchasing staff completed the embodied emissions greenhouse gas analysis for 2010 expenditures using the Carnegie Melon Economic Input Output Life Cycle Assessment tool. This analysis indicates the top 5 goods and services with the highest associated life cycle greenhouse gas emissions are: • Infrastructure construction services, • Concrete and asphalt, • Miscellaneous professional services, • Hardware/metal products and • Inorganic chemicals. Public Works Engineering staff has taken the lead on reducing GHG impacts within the infrastructure construction sector by requiring on site materials recycling (asphalt primarily) and the use of warm mix asphalt for road construction projects.

22.4. Implement steps outlined in the City waste reduction plan to reduce waste at City buildings, events, and ongoing operations.

Status 2011	With renewed investment from the City of Eugene Waste Prevention and Green Building program, the Internal Zero Waste project is actively moving forward. A team of 20 staff from across departments are working together to inventory wastes, identify successful strategies to reduce waste, and develop a new waste hauling contract that will aid the City in its waste reduction goals. The new contract will provide crucial waste generation data that will help the City prioritize actions by focusing on the areas where the greatest improvements can be made.
Status 2012	The City of Eugene internal zero waste program is being rolled out organization wide. Components of the program include: • Increased opportunities to recycle wastes such as plastic film, Styrofoam, and other wastes • Staff Recycling Coordinators to help each work group take advantage of new opportunities • Standardized container standards and standardized signage to make recycling opportunities clear and consistent across the organization. • Organization-wide communications about new opportunities and the organizational waste reduction goals.

22.4a) Continue to monitor the waste stream from internal operations in order to measure progress.

Status 2011	The Internal Zero Waste staff team is developing a new waste hauling contract that will require the waste hauler to measure and report the amount of waste generated and recycled. This new contract will be operating in winter of 2011/2012.
Status 2012	The contractor hauling waste for the City of Eugene is collecting data on the quantities of waste being landfilled and the quantities being recycled. This information will help inform further refinement of waste of practices to reduce the waste being landfilled.

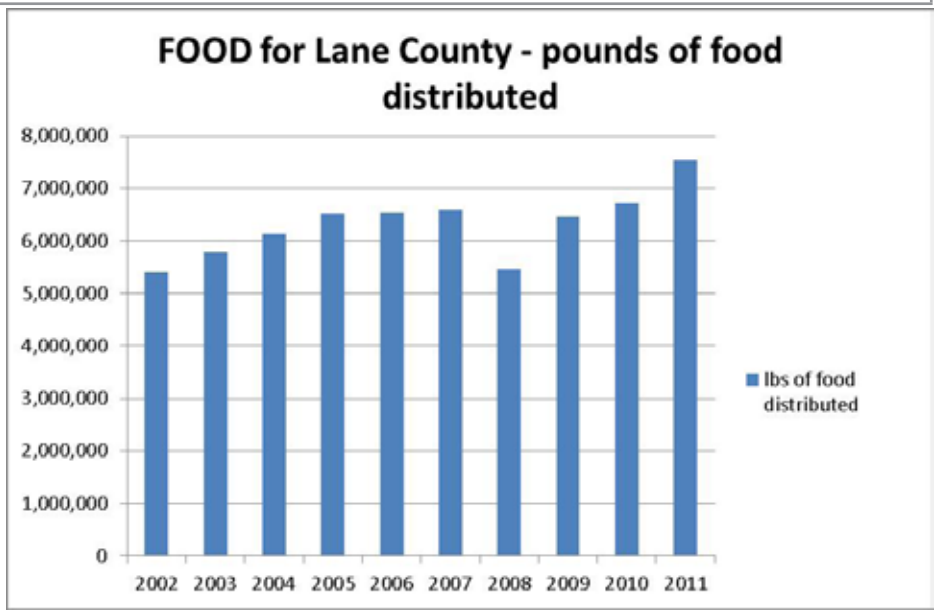
HEALTH AND SOCIAL SERVICES

23.1. Conduct a climate and energy vulnerability assessment that assesses the mid-term, and longer-term climate and energy vulnerabilities of essential services – specifically energy, water, food, health, housing, and sanitation.

Status 2011	In an effort to produce more comprehensive, coordinated, and complete plans with consistent assessments of vulnerabilities, the City of Eugene is examining its Natural Hazards Mitigation Plan, Climate and Energy Action Plan, and Comprehensive Land Use Plan to identify and resolve any inconsistencies. This is a first step toward conducting a climate and energy vulnerability assessment.
Status 2012	In fall 2012 the City of Eugene in partnership with EWEB, the City of Springfield, Lane County, and the Oregon Partnership for Disaster Resilience, will begin assessing tools to conduct an all hazards vulnerability assessment that will reflect vulnerabilities to climate change, rising energy prices, and other natural hazards.

23.2. Strengthen current hunger relief systems to handle increased short-term and long-term demand.

Status 2011	Demand for food at the partner agencies of FOOD for Lane County (FFLC) is up over last year, across the board for all types of programs. There was an 8% increase in the number of people accessing food boxes, the largest increase in seven years. FOOD for Lane County collected and distributed a record 7.7 million pounds of food to support this increase. At the national level, the supply of commodities provided by the United States Department of Agriculture, currently making up 23% of FFLC inventory, is anticipated to decline. The national association of food banks plans to make up the decline with fresh produce.
Status 2012	No update available



23.2a) Conduct analysis to project future demand for hunger relief services. This could be conducted as part of the vulnerability assessment (above).

Status 2011	See 23.1, above.
Status 2012	Vulnerability assessment is underway, see 23.1 above

23.2b) If analysis (a) suggests need, develop plans to prepare for increased food demand from a higher percentage of the population by partnering with the local food bank.

Status 2011	See 23.1, above.
Status 2012	Vulnerability assessment is underway, see 23.1 above

23.2c) Identify and remove barriers to, and encourage, development of homegrown food sources such as backyard and community gardens, urban food orchards, etc.

Status 2011	See update in Food and Agriculture section – action 9.3
Status 2012	See update in Food and Agriculture section – action 9.3

23.3. Increase financial assistance for low-income populations to support energy efficiency home retrofits that reduce the costs for utility service.

Status 2011	Over the last year funding provided by Energy Efficiency Conservation Block Grant (EECBG), Housing and Community Services Agency (HACSA) & Eugene Water and Electric Board (EWEB) resulted in energy efficiency retrofits of 6 affordable housing projects with a total of 160 residential units. A City of Eugene staff group has convened to focus on priority actions from the Climate and Energy Action Plan. Among other tasks, this group is investigating strategies to assist low income and renters specifically in conducting energy efficiency retrofits. Successes in Portland are providing some insight on strategies.
Status 2012	No progress to report

23.4. Conduct a food security assessment, as outlined in the Food and Agriculture section and take action to increase security of the community's food supply.

Status 2011	No progress to report
Status 2012	No progress to report

24.1. Reduce risk of home fires due to wildfires in and around the urban area.

Status 2011	The City of Eugene has completed an assessment on all City-owned Ridgeline properties to determine the amount of vegetation that could be fuel for fires. The assessment will be field tested by Oregon Dept. of Forestry staff. City of Eugene Parks and Open Space and Fire and EMS will jointly apply for FEMA grant funding to conduct tree and shrub removal within City owned Ridgeline properties in order to reduce the risk of fire. Initial scoping for the project identified over $1M of work to be done. This pre-disaster mitigation grant would reduce fuel loading (excessive buildup of trees and shrubs) to protect residences, electricity transmission lines, communication towers and water reservoirs.
Status 2012	City of Eugene Parks and Open Space (POS) and Fire and Emergency Medical Services (Fire and EMS) staff applied to FEMA, the Federal Emergency Management Agency in 2011 for over $1M in grant funds to reduce hazardous fuels in the City's Ridgeline properties. Due to budget constraints, FEMA put the program on hold. City staff has re-applied for state of Oregon funds and may re-submit the federal application if FEMA offers the grant opportunity in 2012. This pre-disaster mitigation grant would reduce fuel loading (excessive buildup of trees and shrubs) to protect residences, electricity transmission lines, communication towers and water reservoirs. City of Eugene Parks and Open Space Natural Resource Maintenance staff continues to remove ladder fuels from localized areas within City-owned Ridgeline properties. Parks that have received these fuel reduction treatments in 2012 include Blanton Ridge, Wild Iris Ridge, and Hendricks Park.

24.1a) Increase efforts to educate homeowners about creating defensible space around their homes.

Status 2011	The City of Eugene is seeking grant funds to increase the amount of outreach being conducted through Firewise, a program to communicate to residents about methods to make their homes fire resistant. The outreach would be focused on the 200-plus properties including homes, Parks and Open Space property, Nature Conservancy properties, Bonneville Power Administration infrastructure, and private timberland properties, within the 2000 acres of the Ridgeline project area.
Status 2012	No update available.

24.2. Ensure essential services are not located within the 100-year flood zone. 24.2a) Identify essential emergency and non-emergency services that are located in flood zones or that could be isolated by flooding. 24.2b) Develop a plan to move essential services out of the flood zone and/or decrease their vulnerability to flood damage and flood isolation.

Status 2011	No specific work has been done to develop a plan to move essential services out of the flood zone.
Status 2012	No change to report

25.1. Educate the public and health professionals about health risks posed by climate change.

Status 2011	As of spring 2011, Lane County Health Department has been part of a professional networking site managed by the Oregon Health Authority and The Resource Innovation Group's Climate Leadership Initiative that provides updated information on climate related health risks, relevant climate modeling data, news, resources and strategies for managing health impacts. Lane County Health Department staff, City of Eugene staff and the Oregon Health Authority liaison for Lane County attended public health and climate change trainings in the spring of 2011 that provided an overview of climate related impacts to public health and emergency preparedness, including opportunities for action and resources for implementing climate preparedness strategies.
Status 2012	Lane County Public Health developed and officially adopted a new "Functional Appendix" in the Lane County Emergency Operations Plan that addresses the County's environmental response capability in emergency circumstances; ensuring safe food, and potable water following natural disasters (e.g. flood or winter storm), implementing appropriate responses for poor air quality and extreme temperatures, and preventing the spread vector-borne disease threats (e.g. West Nile Virus). While not specifically about climate change, this improves the capacity of emergency responders to handle situations that will occur more frequently under predicted climate change scenarios.

25.2. Prioritize local public health resources to emphasize educating the public, staff, and administration about climate change, energy price volatility and the related system impacts and health risks.

Status 2011	No significant change to report
Status 2012	No significant change to report

25.3. Develop a climate change preparation strategy for the public health system.

Status 2011	Lane County Public Health was unable to pursue a grant opportunity with Oregon Health Authority on building climate change capacity due to financial and staffing constraints, but will have an opportunity to learn from the outputs of grant awardees such as Benton County.
Status 2012	In fall 2012 a team from Eugene, including Lane County Public Health staff, participated in a two day Climate Leadership Academy focused on climate adaptation. The Academy catalyzed local efforts to conduct a vulnerability assessment (23.1) that could function as a first step in creating a climate change preparation strategy for the public health system.

URBAN NATURAL RESOURCES

26.1. Increase funding for public acquisitions of property to facilitate the combined goals of stormwater management, flood abatement, stream shading, headwaters protection and increased connectivity between wildlife corridors. Some priorities for property acquisition are outlined in the Ridgeline Vision and Action Plan, the Willamette River Vision Plan, and the Metro Waterways Plan.

Status 2011	At the state level, the City has successfully competed for land acquisition grants from the Oregon Watershed Enhancement Board (OWEB). In September, 2011, The City of Eugene anticipates a $750,000 grant award from OWEB to help purchase 193 acres of Ridgeline property west of Spencer Butte Park. There are also multiple federal funding sources available for land acquisitions and the City has been successful in receiving funds from these sources in the past. In general, all of the state and federal grant sources have less funding available in 2011 compared to previous years because of funding shortfalls at all levels of government.
Status 2012	With funding support from the Oregon Watershed Enhancement Board (OWEB) and the Bonneville Power Administration (BPA), the City was successful in completing acquisition of 193 acres of Ridgeline property west of Spencer Butte Park. The site, known as South Eugene Meadows, now has a completed management plan in place. Similarly, the BPA acquisition funds included $183,000 of additional "stabilization" funding to assist with initial high priority projects. The City was also successful at purchasing approximately 6 acres along the East Bank of the Willamette River near the Owosso Bridge.

26.2. Update urban forestry management plans to promote urban forest management on a city-wide scale, expanding beyond individual lots or streets.

Status 2011	No change to report. The City of Eugene's current 1992 Urban Forest Management Plan is available upon request by writing to: Urban Forester, City of Eugene Parks and Open Space, 1800 Roosevelt Blvd., Eugene, Oregon 97402.
Status 2012	The City's FY12 Urban Forestry Service Profile, a mini strategic plan for Urban Forestry services, includes a strategy to: • Work to improve the resilience of the urban forest to climate change, diseases, stress, insect attack and fire. • Expand the Approved Street Tree Species List, incorporating more native trees and identifying bioswale-appropriate trees. • Update City urban forestry web pages with educational information about diseases and insect pests of urban trees, and with strategies for landscapes that are resilient to climate change and that incorporate fire safety elements. The Service Profile includes the following target: "By 2015, increase the diversity of species of street trees by decreasing the percentages of invasive non-native and unapproved trees in the top twenty species city-wide."

26.3. Identify and remove barriers, including City code, that may discourage or prevent use of Low Impact Development (LID) practices during construction on public and private property.

Status 2011	In 2010 City staff updated the City's Stormwater Management Manual (adoption pending). The manual revisions remove some barriers to LID. City staff designed and constructed multiple capital transportation improvement projects which incorporated LID strategies in both 2010 and 2011. The City has received a new National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Discharge Permit that requires staff to identify, and where practicable, minimize or eliminate barriers to LID.
Status 2012	In January of 2012 the City launched a project team to evaluate how to minimize or eliminate the barriers identified in the "Review of LID Practices for Stormwater Management" report, and develop a proposed action for implementing the necessary changes. This cross-departmental work is underway and is scheduled for completion in fall of 2012.

27.1. Compile and maintain an inventory of urban natural resources that is current and accessible to the public and policy-makers.

Status 2011	Compiling and maintaining an inventory of urban natural resources that would be current and accessible to the public and policy-makers is an important goal that has yet to be realized. At the present time, there are a limited number of specific Parks and Open Space natural areas within Eugene including Delta Ponds, Wild Iris Ridge, and Coyote Prairie, that have well developed management plans and monitoring programs where there is fairly detailed information about natural resources on site. However, even for these sites, the information is not yet readily available to the public or policy-makers.
Status 2012	In spring 2012 a staff team investigated the needs and tools available to complete this task. At the same time, Information Services Division (ISD) staff was laying the foundation for a new internet-accessed community mapping program initially referred to as Eugene Maps. Because the efforts overlapped they were consolidated. City of Eugene staff in ISD and Neighborhood Services continue to move this initiative forward.

? 28 .1. Plan for increased fires in the forests surrounding the urban area.

Status 2011	See Health and Social Services 24.1
Status 2012	See Health and Social Services 24.1

? 28.1a) Re-examine urban forest management policies to ensure that focus is placed on reducing susceptibility to the likely increase in wildfires.

Status 2011	See update for Urban Natural Resources action 26.2
Status 2012	See update for Urban Natural Resources action 26.2

? 29.1. Provide educational resources to students, teachers, residents, and businesses about the benefits of trees, watershed health, and water quality.

Status 2011	So far in 2011, Eugene Tree Foundation has hosted 38 events including 28 work parties, planting 75 trees native trees and 33 street trees. Eugene Tree Foundation volunteers have donated over 2000 volunteer hours in just the last 12 months.
Status 2012	No update available

30.1. Manage stormwater and riparian areas to meet multiple goals: improved water quality, lowered stream temperatures, increased infiltration, increased capacity, and improved native plant and wildlife habitat.

Status 2011	In the spring of 2011 over 30,000 native trees shrubs, sedges and rushes were planted on the new riparian benches and adjacent lands at Delta Ponds to further improve plant and wildlife habitat. City of Eugene Parks and Open Space staff continues to stabilize creek and channel banks to prevent erosion and manage vegetation along urban waterways in order to shade streams and maintain stream conveyance. Additional trees will be planted along the banks of Amazon creek in fall 2011.
Status 2012	In winter of 2011-12, native plants were planted in several waterways throughout Eugene. These plantings will improve habitat, stormwater infiltration, reduce water temperatures and otherwise improve water quality. 6,700 native trees, shrubs, sedges and rushes were planted at Heron Slough. Approximately 200 native trees were planted along Amazon Creek and approximately 110 native trees were planted along the Canoe Canal. Additionally, some 15,700 willow stakes were added to waterways throughout the City. In fall 2012 as part of the celebration of Eugene's 150th birthday, City staff planted 150 trees along the Willamette river in Maury Jacobs park. Additional trees will be planted along the banks of the Willamette River, Delta Ponds and Heron Slough in winter 2012-13.

30.2. Develop a program to encourage onsite treatment of stormwater from existing buildings and facilities.

Status 2011	In 2010 City staff updated the City's Stormwater Management Manual (adoption pending). The revisions incorporate a section for retrofitting existing stormwater facilities to provide treatment of runoff from existing impervious surfaces.
Status 2012	The City of Eugene is partnering with Long Tom Watershed Council on a pilot project to help fund voluntary stormwater retrofits of existing developed private properties within the Amazon Creek watershed. Over a three year period a total of $50,000 of stormwater funds will be used to help an estimated 10 property owners retrofit their properties to incorporate green infrastructure stormwater features (raingardens or bioswales, for example) where conventional stormwater systems currently exist. The funds will be used as a 50% match towards the cost of constructing stormwater features, up to $5,000 per project. Long Tom Watershed Council will be doing the initial outreach and identifying prospective property owners who can participate in the program. This program complements the City's existing regulatory program that requires on-site stormwater treatment for most new development or redeveloped properties city-wide and, together, will help protect and improve the water quality of Amazon Creek. In January 2012 a City project team began work on policy changes to comply with the City's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System Discharge Permit conditions for post-construction stormwater runoff. The new permit contains requirements that alternative options to Low Impact Development (LID) be used in cases when LID techniques can't be used at a new development or redevelopment site (i.e. poorly drained soils, steep slopes, etc.). One of the alternatives being discussed includes treatment of stormwater from existing infrastructure such as parking lots, building roof tops, and roads. The options need to be further developed and studied for feasibility and are scheduled to be complete in 2013.

30.2a) Identify incentives to encourage property owners to retrofit existing structures and facilities.

Status 2011	No changes to report
Status 2012	Temporary incentives exist through the stormwater retrofit project described above. No permanent incentives are in place.

31.1. Increase planting, preservation, and maintenance of trees and shrubs.

31.1a) Build on existing initiatives and partnerships.

Status 2011	In 2010 and 2011 Eugene Tree Foundation, now Friends of Trees, reorganized volunteer programs in an effort to address to budget challenges and to provide a better mix of incentives and garner greater investment in the stewardship of urban trees from homeowners and community volunteers.
Status 2012	The City of Eugene Park Stewards volunteer program has been reorganized to facilitate greater capacity to recruit and retain existing adoption groups for the entire park system. As elements of the reorganization are implemented, capacity to increase planting, preservation, and maintenance of trees and shrubs will increase. A goal of the program is to provide ongoing stewardship opportunities such as adoptions of parks and natural areas that will lead to increased planting and maintenance of trees. In 2011 and 2012, The Eugene chapter of Friends of Trees (FOT) launched its three programs in Eugene: • The Neighborhood Tree program engages volunteers in street and yard tree plantings and offers street and yard trees in every neighborhood of Eugene and Springfield. • The Green Space program plants trees in parks, natural and industrial areas, roadsides, and other green spaces. • The Stewardship Program organizes volunteers to water, weed, mulch, prune, inventory, and conduct research on trees, as well as removing undesirable plants. Friends of Trees worked with Jefferson Westside Neighbors (JWN) and City of Eugene to pilot a community tree inventory project, training volunteers to update the city tree inventory for JWN and to engage neighbors and volunteers. Friends of Trees completed the first preliminary canopy cover study for Eugene neighborhoods in 2011 illustrating the areas in town with the greatest need for increased canopy cover. In 2012, the study was updated with help from US Forest Service researchers using improved methodology. A final report will be released in fall 2012.

31.1b) Seek additional financial and volunteer resources.

Status 2011	No changes to report
Status 2012	The newly reorganized City of Eugene Park Stewards volunteer program continues to collaborate with non-profits, community service organizations and adoption groups to become stewards of the park system. In fiscal year 2011 the program supported 35 active volunteer groups working in the park system and in fiscal year 2012 that increased to 43 active partners.

31.1c) Plant a diversity of species, including species native to the Willamette Valley, to increase the percentage of survivors under changing conditions.

Status 2011	In FY11, the City of Eugene planted 638 trees in the public right of way spending $39,908. This does not include trees planted in parks. The City of Eugene recently filled a long-standing vacancy in Urban Forestry Operations, bringing the number of full time field arborists on staff to four. City of Eugene urban forestry staff estimate that several thousand more trees are receiving care each year compared to just two years ago.
Status 2012	The City of Eugene, in partnership with Friends of Trees, is making a number of "climate adapted" tree species available for residents to plant in the right of way including: Chinese Pistache, California Buckeye, California Black Oak, Canyon live oak, and Interior live oak . In the winter of 2012/2013, The City of Eugene, in partnership with 4J, will plant a number of "climate adapted" tree species at Sheldon Community Center to test their viability as appropriate tree species for other locations in town. Tree species include: Western Chinquapin, Valley Oak, California Black oak, Blue Oak, Chinese Pistache, Crepe Myrtle, Pacific Madrone, Oregon White Oak, Tanoak and Interior Live Oak. Friends of Trees is offering a limited number of these trees to homeowners at low cost to plant on their property between the street and sidewalk. In September 2012, Friends of Trees and City of Eugene organized a public workshop to discuss climate appropriate tree species. Friends of Trees now has in place a monitoring program to track all the trees planted by Friends of Trees volunteers in order to evaluate what works and adapt species lists accordingly.

31.2. Control invasive species, such as English ivy, on City and County parks in order to maintain the health of existing urban area native habitats.

Status 2011	Early detection of invasive species and protection of high quality natural areas is the highest priority. In lower quality areas, the City of Eugene Parks and Open Space Division seeks capital improvement projects to restore lands to a higher quality. Examples of restoration in 2010 and 2011 include the Delta Ponds Habitat Enhancement project, the East Phase of the Coyote Prairie North Mitigation Bank, and the Mariposa Woodland Pine-Oak Habitat Enhancement project. In addition, the Division coordinates with both the Upper Willamette Weed Management Cooperative and the Rivers to Ridges Field Operations Group to collaborate on invasive species detection and treatment.
Status 2012	Eugene Parks and Open Space staff is engaged in invasive species management on many fronts throughout the City. Using a well-established Integrated Pest Management Program, staff survey and map park lands for new or expanding populations of invasive species, prioritize treatments, control populations and monitor results. In addition to dispersed on-going efforts throughout the system, larger control efforts were implemented in 2012 to control ivy at Skinner Butte, along the Willamette River, and at Morse Ranch. In addition, efforts are underway to control rapidly-expanding populations of the invasive aquatic weed Ludwigia hexapetala at Golden Gardens and Delta Ponds.

31.3. Create incentives to encourage residents and businesses to plant trees.

Status 2011	No changes to report
Status 2012	Friends of Trees Eugene makes large caliper street trees available to residents in Eugene and Springfield at prices below cost. For those who can't afford the minimal cost, scholarships and volunteer trades are available. Lower income neighborhoods with low canopy cover can receive trees for just $15.

32.1. Increase existing water conservation education and water quality initiatives as outlined in the Buildings and Energy section. (See buildings and energy section 4.2)

? 33.1. Strengthen and expand protections to maintain surface water quality and prevent the contamination of shallow wells.

Status 2011	No update available
Status 2012	No update available

Glossary

Adaptation: An adjustment in natural or human systems to a new or changing environment. Adaptation to climate change refers to adjustments in response to actual or expected climatic stimuli or their effects, which lessens harm or exploits beneficial opportunities. Various types of adaptation include anticipatory and reactive, private and public, and autonomous and planned.

Albedo: The amount of solar radiation reflected by a surface or object. Snow-covered surfaces have a high albedo; the albedo of soils ranges from high to low; and vegetation- covered surfaces and oceans have a low albedo.

Architecture 2030: A non-profit, non-partisan and independent organization established in response to the global-warming crisis by architect Edward Mazria in 2002. The mission is to rapidly transform the US and global Building Sector from the major contributor of greenhouse gas emissions to a central part of the solution to the global-warming crisis. (Description from website: www.architecture2030.org). Find more detail about Architecture 2030 and proposed targets in Appendix 11

Biofuel: A fuel produced from dry organic matter or from combustible oils produced by plants. Examples include alcohol from fermented sugar, black liquor from the paper manufacturing process, wood, and soybean oil.

Biomass: When referring to fuel, biomass is a plant-derived fuel from clean and untreated wood such as brush, stumps, lumber ends and trimmings, wood pallets, bark, wood chips or pellets, shavings, sawdust and slash, agricultural crops, biogas, or liquid biofuels, but excludes materials derived in whole or part from construction and demolition debris.

Bioswale: A vegetated depression that can temporarily store stormwater, reduce flooding, cleaning water, and encourage infiltration.

Bus Rapid Transit (BRT): A system that emulates the efficiencies and operations of light-rail at a fraction of the costs. Attributes of a BRT system:

> Exclusive right-of-way—guarantees travel time; Signal priority—gives buses priority through intersections; Level boarding—makes boarding easier and quicker; Off-Board Fare Collection—negates fumbling with change and allows boarding at all doors; Less frequent stops—improves travel time; Improved stations—offers station amenities for passenger comfort; and Park & Ride connections—improves Vehicle Image (Source: Lane Transit District)

Carbon dioxide (CO2): The major heat-trapping gas whose atmospheric concentration is being increased by human activities. It also serves as the yardstick for all other greenhouse gases. The major source of CO2 emissions is fuel combustion, but they also result from clearing forests and burning biomass. Atmospheric concentrations of CO2 have been increasing at a rate of about 0.5 percent a year, and are now more than 30 percent above pre-industrial levels.

Carbon intensity: The amount of carbon emitted for each unit of energy consumed.

Carbon neutral (also climate neutral): When greenhouse gas emissions are net zero. A building is carbon neutral when it doesn't generate more greenhouse gas emissions than it sequesters. This can also be accomplished by "offsetting" emissions with "carbon credits."

Carbon sequestration: The uptake and storage of carbon. Trees and other plants, for example, absorb CO2, then release the oxygen while storing the carbon.

Carbon sinks: The processes or ecological systems that take in and store more carbon than they release. This process is called carbon sequestration. Forests and oceans are large carbon sinks.

Climate: The average state of the atmosphere including typical weather patterns for a particular region and time period (usually 30 years). Climate is the average, long-term weather pattern for a particular region, while weather describes the short-term state of the atmosphere. Climate measures average precipitation, temperature, wind, and seasonal phenomena such as length of the growing season.

Climate change: A significant change from one climatic condition to another, often used in reference to climate changes caused by the increase in heat-trapping gases since the end of the 19th century.

Climate feedback: An interaction mechanism between processes in the climate system that happens when an initial process triggers changes in a second process that in turn influences the initial one. A positive feedback intensifies the original process, and a negative feedback reduces it.

Climate model: A quantitative way of representing the interactions of the atmosphere, oceans, land surface, and ice.

Climate neutral: See carbon neutral

Climate refugees: People displaced from their homes or lands by significant changes in climate such as increased drought, sea level rise, or increased storm intensity.

Concentration: Amount of a chemical in a particular volume or weight of air, water, soil, or other medium. See also PPM (parts per million).

Cost-effective: A criterion that specifies that a technology or measure delivers a good or service at equal or lower cost than current practice, or the least-cost alternative for reaching a given target.

Community Scale Renewable Energy: A renewable energy system, photovoltaic for example, installed at a large scale: for example, over the roof of a large commercial building. Often this will include multiple investors paying for a single, large installation that will benefit many homes or businesses.

Cycletrack: A bike facility that uses the existing road network (unlike a multiuse path along the river, for example) and separates bike users from automobile traffic, often with a row of parked cars.

District energy: In this system, steam, hot water, chilled water, or electricity is produced in a central plant and distributed to multiple buildings in a defined area through underground pipes.

Earth Advantage: A third party, green building certification program for new homes, multi-family buildings, and neighborhoods. Pilot programs are also available for remodels and small commercial projects. Key areas addressed include energy efficiency, indoor air quality, environmental responsibility, and resource efficiency. For more information: www.earthadvantage.com

Ecosystem: Any natural unit of living and non-living parts that interact to produce a stable system through cyclic exchange of materials.

Embodied (greenhouse gas) Emissions: Greenhouse gas emissions associated with embodied energy (below)

Embodied energy: The total expenditure of energy involved in the creation of a product. This includes the energy to extract raw materials (lumber, iron, etc.), process, package, transport, install, and recycle or dispose of products.

Emissions: The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.

Energy efficiency: Ratio of energy output of a conversion process or of a system to its energy input.

Energy intensity: Energy consumption per measure of demand for services; e.g., number of buildings, total floorspace, floorspace-hours, number of employees.

Energy Performance Score: A home energy rating system similar to the miles-per-gallon (MPG) rating for the auto industry that enables homebuyers to directly compare energy consumption between homes while offering a natural market incentive to upgrade their homes as much as possible.

Energy Trust of Oregon (ETO): A nonprofit organization that helps certain utility customers in the Pacific Northwest improve their energy efficiency and tap renewable sources. ETO was set up to administer public purpose funds that are collected from customers for new cost-effective conservation, new market transformation, and the above-market costs of new renewable energy resources. For more information: http://energytrust.org

Envision Eugene: The City of Eugene's process for creating a 20-year comprehensive plan that will shape land use in Eugene over the next decade or more. More information available at www.envisioneugene.org

EWEB: Eugene Water and Electric Board—Eugene's largest utility.

EPA: The United States Environmental Protection Agency.

EPUD: Emerald People's Utility District—Provides electricity to some Eugene residents and businesses.

Exposure: The nature and degree to which a system is exposed to significant climatic variations.

Foodshed: The area where food is grown, processed, delivered and consumed. A foodshed may be global or may be local—defined by a specific distance for example.

Fossil fuel: A general term for combustible geologic deposits of carbon in reduced (organic) form. Fossil fuels are of biological origin and include coal, oil, natural gas, oil shales and tar sands. A major concern is that they emit CO2 when burned, significantly enhancing the greenhouse effect.

GHG: Abbreviation for greenhouse gas. See definition for Greenhouse Gas below.

Generation: The process of making electricity. The term may also refer to energy supply.

Global Warming: An average increase in the temperature of the Earth's atmosphere, which can contribute to changes in global climate patterns. Global warming can occur from a variety of causes, both natural and human induced. In common usage, "global warming" often refers to the warming that can occur as a result of increased emissions of greenhouse gases from human activities. See climate change, greenhouse effect.

Greenhouse Effect: The thermal effect that results from heat-trapping gases allowing incoming solar radiation to pass through the Earth's atmosphere, but preventing most of the outgoing infrared radiation from the surface and lower atmosphere from escaping into outer space.

Greenhouse Gas: Commonly abbreviated GHG, a term used for gases that trap heat in the atmosphere. The principal greenhouse gases that enter the atmosphere as a result of human activity are carbon dioxide, methane, and nitrous oxide. Others include, but are not limited to, water vapor, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), ozone (O3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6).

Greywater: Under Oregon law, greywater means wastewater from showers, baths, bathroom and kitchen sinks, and laundry. If handled properly, greywater can safely be reused for flushing toilets and urinals as well as for irrigation. Reuse of greywater reduces the demand on other sources of water, such as potable water, surface water, and groundwater.

IPCC: Intergovernmental Panel on Climate Change. Established in 1988, the IPCC assesses information in the scientific and technical literature related to all significant components of the issue of climate change. It draws on hundreds of the world's leading scientists to serve as authors, and thousands as reviewers. Key experts on climate change and the environmental, social and economic sciences from some 60 nations have helped the IPCC prepare periodic assessments of the scientific underpinnings of global climate change and its consequences. The IPCC is also looked to as the official advisory body to the world's governments on the state of the science of the climate change issue.

Impervious surface: Surfaces such as concrete, asphalt, and building roofs that don't allow water to penetrate. These surfaces collect and concentrate rainwater increasing the potential for water pollution and flooding.

Infill compatibility standards: A City of Eugene planning effort with a stated goal to create and adopt land use code standards and processes that (a) Prevent residential infill that would significantly threaten or diminish the stability, quality, positive character, livability or natural resources of residential neighborhoods; and (b) Encourage residential infill that would enhance the stability, quality, positive character, livability or natural resources of residential neighborhoods; and (c) if the goal stated in (a) is met, allow for increased density, a variety of housing types, affordable housing, and mixed-use development; and (d) Improve the appearance of buildings and landscapes.

Integrated design: a collaborative and holistic approach to building through which multiple disciplines and aspects of design—including architecture, lighting and electrical, HVAC, interior design, and landscape design—are considered together in the planning of a new structure or renovation to achieve a cost-effective, resource-efficient, and comfortable result. (Source: BetterBricks and the National Institute of Building Sciences)

Invasive species: An introduced species that invades natural habitats.

KWh: Kilowatt-hour. A measure of electricity use. The equivalent of energy needed to operate a 100 watt light bulb for 10 hours.

LCOG: Lane Council of Governments, a voluntary association of local governments in Lane County, Oregon. The agency is a regional planning, coordination, program-development, and service-delivery organization thathelps area cities, Lane County, educational districts, and special-purpose districts reach their common goals.

LTD: Lane Transit District

Land use: Human-determined arrangements, activities, and inputs undertaken in a certain land type, the social and economic purposes for which land is managed (e.g., grazing, timber extraction, and conservation).

Land-use change: A change in the use or management of land by humans, which may lead to a change in land cover. Land cover and land-use change may have an impact on the albedo, evapotranspiration, sources, and sinks of greenhouse gases, or other properties of the climate system, and may thus have an impact on climate, locally or globally.

Lifecycle (of goods): The complete life (of goods)—the mining or extraction of raw materials, the manufacturing processes, transportation, packaging, retail, the use of goods, and finally their disposal.

LEED: Leadership in Energy and Environmental Design, a program of the United States Green Building Council and a commonly used green building standard.

Methane (CH4): A hydrocarbon that is a heat-trapping gas carrying a global warming potential recently estimated at 24.5. Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and oil, coal production and incomplete combustion of fossil fuels.

Metric ton (Mt): Common measurement for the quantity of greenhouse gas emissions. A metric ton is equal to 2205 lbs or 1.1 short tons.

Mitigation: An intervention to reduce the sources or enhance the sinks of greenhouse gases.

Megawatt (MW): A measure of electricity use. One MW is equal to 1000 Kilowatts.

Natural gas: A fossil fuel that occurs as underground deposits of gases consisting of 50 to 90 percent methane (CH4) and small amounts of heavier gaseous hydrocarbon compounds like propane (C3H8) and butane (C4H10).

Net metering: A special metering and billing agreement between utilities and their customers, which facilitates the connection of small, renewable energy-generating systems to the power grid. When a net metering customer's renewable energy system is producing more power than is being consumed, the electric meter runs backward generating credits. When a customer uses more power than is being produced, the meter runs forward. Customers are charged only for the "net" power that they consume over a designated period or, if their renewable energy-generating systems make more electricity than is consumed, they may be credited or paid for the excess electricity contributed to the grid over that same period.

Nitrous Oxide (N2O): A powerful greenhouse gas. Major sources include soil cultivation—especially from use of commercial and organic fertilizers—fossil fuel combustion in vehicles, nitric acid production and the combustion of biomass.

NWN: Northwest Natural Gas

Occupant behavior: The behavior of building occupants such as residents and employees. Relevant occupant behaviors include manually operating thermostats and opening and closing windows.

ODOT: Oregon Department of Transportation

Oregon DEQ: Oregon Department of Environmental Quality

Oregon DOE: Oregon Department of Energy

Opportunity Siting: A City of Eugene planning effort with the stated goal of:

1) Creating a planning process for finding specific sites that can feasibly accommodate high-density residential development that is compatible with and has the support of nearby residents.

2) Facilitate development on those sites.

Pervious pavement: Pavement (asphalt or concrete) that is designed so that water can move through the pavement and infiltrate into the ground

Photovoltaic (PV): A solar power technology that converts sunlight into electricity.

Peak Oil: A term used to describe the transition from a time when the available supply of oil grows each year to a period in which the rate of oil production enters decline.

Product Stewardship: Calls on those in the product lifecycle—manufacturers, retailers, users, and disposers—to share responsibility for reducing the environmental impacts (definition from EPA website). Ideally, this would result in changes in design so that products create less waste, can be re-used or disassembled for easier recycling, or are otherwise redesigned.

Rain Gardens: Stormwater management structures designed to slow runoff, clean water, and increase soil infiltration.

Renewable Energy: Energy sources that are, within a short time frame relative to the Earth's natural cycles and sustainable. They include non-carbon technologies such as solar energy, hydropower, and carbon-neutral technologies such as biomass.

Resilience: Amount of change a system can undergo without altering state.

Setbacks: Land use code that requires buildings or facilities to be a certain distance back from a roadway or other defined object. A building must be "set back" xx feet from the street, for example.

SmartMeters: Occasionally referred to as AMI (Advanced Metering Infrastructure), SmartMeters are a meter that tracks building energy use for the building owner and utility. SmartMeters differ from conventional electricity meters by communicating directly with the utility, typically hour-by-hour, facilitating the use of electricity rates that change over the course of a day. By providing electricity consumers with price signals, utilities can reduce peak electricity demand, and important strategy to reduce greenhouse gas emissions. In addition to communicating with the utility, smart meters facilitate the use of in-home meters to provide building occupants with real-time electricity consumption data.

Source (greenhouse gas): Any process or activity that releases into the atmosphere a greenhouse gas, an aerosol or a precursor to a greenhouse gas.

Stormwater: Rain, snow, and other precipitation that falls onto buildings, streets, and the ground. Stormwater is managed within the stormwater system of downspouts, gutters, underground pipes, and streams.

TransPlan: The Eugene-Springfield Transportation System Plan that guides regional transportation system planning and development in the Eugene-Springfield metropolitan area.

Vehicle-miles traveled (VMT): A measurement to determine the amount of automobile traffic—can also be used to estimate greenhouse gas emissions.

Vulnerability: The degree to which a system is susceptible to, or unable to cope with, adverse effects of climate variability and extremes.

Wastewater: Used water that contains dissolved or suspended waste materials.

Weather: Atmospheric condition at any given time or place measured in terms of wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation. In most places, weather can change from hour to hour, day to day, and season to season. Climate is usually defined as the "average weather."

Zero net energy: A net zero energy building annually produces as much energy through on-site renewable systems as it uses.